An Address

ON

SURGICAL VERSUS THE EXPECTANT TREATMENT OF INTRACRANIAL TUMOUR.

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BY

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A SURVEY of the last twenty years' experience of the practical treatment of intracranial tumours shows that the time has arrived for a complete reconsideration of the whole subject.

Probably as a consequence of difficulty in diagnosing (1) the accurate position of the lesion and (2) its precise nature, the whole subject of the treatment of intracranial tumour is unfortunately in much the same false position as that of appendicitis was fifteen years ago.

A few years ago all, and even now most, cases of intracranial tumour died without really receiving any treatment at all, for, since no drug is known to have any influence on neoplastic tissues, the classical administration of potassium iodide, etc., is merely a ritual, and is not treatment of the disease at all.

I am not aware either of any case in which it was proved by *post-mortem* examination afterwards that a cerebral tumour (not one of the specific granulomata) had been cured by drugs during the patient's lifetime. By a singular cynicism, the origin of which I cannot trace further, the unfortunate sufferer from intracranial tumour is commonly said to receive "expectant" treatment.

Considering that in the absence of any active surgical treatment the only thing to be expected is death, the term "expectant treatment" has always to my mind carried with it its own condemnation for inhumanity.

No doubt the expression has arisen from the fact that in so many cases the physician is unable to make a diagnosis on the spot, and while he waits hoping that something will turn up to assist him, he tries to alleviate some of the symptoms of the condition which *de facto* he makes no attempt to treat.

Exactly as in the analogous case of appendicitis, where suppression of symptoms by opiates, etc., formerly caused many a fatality, so in intracranial tumour the temporary betterment which has often followed the empirical administration of potassium iodide and other drugs has constantly led to a fatal postponement of the only real treatment at the present day of a neoplasm—namely, operation. Indeed, this is so constantly done that in the large majority of cases for which operative treatment is sought a careful clinical investigation reveals a clear and unequivocal history of intracranial disease of long duration, from one to even ten years, in one case even more than thirteen years.

The first step, therefore, in reform must be the frank recognition that the so-called treatment of intracranial tumour by drugs is wrong because useless.

The second step must be the enunciation of the earliest pathological conditions which are indicative of intracranial tumour.

At the present time it is usual practice, even when intracranial tumour is suspected, actually to wait until the final stage of the disease is entered upon and the signs of hypertension appear—namely, optic neuritis, headache, and vomiting, and particularly the first of these. My view is that this very common procedure is as unjustifiable as would be the waiting for signs of lymphatic infection in a case of cutaneous epithelioma.

I am of course aware of instances in which the occurrence of optic neuritis was stated to have been the first symptom calling for notice, but I have not myself seen such chronology in a case of intracranial tumour, and would rather suggest that the neurological symptoms had not been observed, an oversight particularly possible in patients of uncomplaining natures.

It is therefore necessary that neurologists should come to some sort of understanding as to the pathological conditions which should be at once treated surgically on the ground that they are indicative of intracranial tumour. These "signal" conditions, to use Seguin's suggestive expression, may best be discussed according to Dr. Hughlings Jackson's classification of neurological phenomena—namely, (*a*) those of over-action and (*b*) those of want of action, that is, in respect of the functional activity of the central nervous system.

(*a*) *Over-action*, that is, irritative effects of lesion.

On the first of these, then, I propose that the following procedure should be adopted, namely, "that every case of focalized epilepsy not definitely proved to be idiopathic in origin must be treated by exploratory operation."

By focalized epilepsy I mean all varieties of epilepsy in which the focus or starting point of the seizure can be localized to one lobe of the cerebrum.

I have elsewhere[1] shown that a diagnosis of the seat of neoplasms can be made by following Dr. Hughlings Jackson's methods and analysing the mode of epilepsy generated in any one particular region of the cortex cerebri. In order not to take up the time of the meeting and so prejudice the discussion of the main question, the subject of this communication, I must for the present refer my readers to the publication above mentioned.

The character of the epilepsy alone is sufficient as the basis of an exploratory operation, but of course in the large majority of cases the diagnostic conclusion is confirmed by the associated symptoms.

A simple exploratory operation should involve no risks to a patient, and, inasmuch as the successful treatment of a malignant growth depends upon its earliest possible removal, no opposition on a rational basis can be raised against my proposition except this, that in the present state of our knowledge such general resort to operation may lead to negative findings in some instances.

But in such a case no harm would be done to the patient nor would surgical intervention be prejudiced, since the surgeon would have done the best thing in his power for the patient.

In all my cases of such exploratory operations I can only remember one in which the skull and cortex cerebri appeared to be normal when exposed. If the suggested procedure is carried out as a routine practice, it will result not only in the discovery of neoplasms in a very early stage of growth, but will also greatly improve our knowledge of the affections of the brain cortex, which at the present time is chiefly derived from *post-mortem* anatomical examinations, in which only end conditions are found and bearing very little resemblance to the conditions existing during life and of which treatment is attempted.

(*b*) *Want of action*, that is, destructive effects of lesion.

The second proposition I wish to invite acceptance of is that immediately a destructive lesion of the intracranial nervous system is recognized to have a progressive character it must be treated surgically, and since a rough division of the brain into mainly sensory and mainly motor districts is possible, the following terms express my meaning:

"That every case of *progressive* motor or sensory paralysis of intracranial origin must be treated by exploratory operation."

The fact that the principal feature of a new growth is its gradual extension and consequently gradual destroying effect on the nerve tissues, does not seem to have received full attention from clinicians. Many, in fact most, cases of intracranial tumour, when referred for surgical treatment, exhibit severe symptoms of destruction, such as hemiplegia, hemianaesthesia, hemianopsia, etc.; and in some cases, especially where the growth slowly increases and varies in its pressure, as all tumours do, the process of destruction has been allowed to go on for years—three to four years not uncommonly—before the removal of the cause is sought.

This procedure of watching and delay is equally as unjustifiable as would be the watching of the gradual destruction of a limb by sarcoma, if such were the

common practice; but fortunately, since in the latter case the tumour is exceedingly obvious, the sufferer enjoys a better chance by being treated in good time. The matter becomes even more serious if the correlative question of cerebral compensation is considered. Personally, I do not think that we are justified in speaking of cerebral compensation of function. The more closely cases of cerebral lesion are studied the more clearly does it appear that the destruction of any given part means a corresponding loss of function, and that it is only the widespread degree of representation which provides that with restricted lesions there shall not be a total or complete loss of function.

Nothing, therefore, is of graver concern to the sufferer from intracranial disease than that it should be attacked before it has had time to destroy any portion of the cerebrum.

Clearly the problem before us is to find what are the earliest symptoms of destruction in the various lobes of the cerebrum. The answer to this is obviously the answer to the question, What is the principal function represented in each lobe?

What, however, is also needed is a more frequent and systematic clinical inspection of cases. Thus, in the early destructive effects on the mental powers which is so characteristic of tumours of the frontal lobes, beyond a recognition of the well-known *Witzelsucht*, there exist no organized methods of mental and intelligence examination and record.

So, too, in lesions of the sensori-motor Rolandic region, whether pre-central or post-central, so much attention is bestowed on coarse motor loss that the far earlier loss of Munk's "memories of movements" has been overlooked. I have found that atopognosis may be present for months before the destructive lesion producing it has caused any detectable loss of motor power; whereas stereognosis, on which much reliance is often placed, naturally does not develop until the essential factor in its production—namely, motor paralysis—is well marked.

Thus, as might have been anticipated, the earliest graded progressive signs of destruction to be looked for are losses of sensory function. This is true not only of the central region of the cortex, but *a fortiori* of the so-called higher sensory centres. Thus, early recognition of commencing restriction of the fields of vision, of alteration in tone appreciation, and of slight disorders of equilibration, will secure early treatment of tumours of the occipital and temporal regions.

Though for the early and successful treatment of cerebral tumours operation should be at once resorted to on detection of progressive sensory loss, unfortunately the last phenomenon to appear—namely, loss of motor power—is the one usually looked for, and, one must add, waited for, before the proper surgical steps are undertaken.

It follows from what has been said above that no tumour of the brain should be "treated" by internal drug administration. We come, therefore, to the following conclusion: "Every case of intracranial tumour definitely diagnosed must be treated, according to its situation, either by (1) removal of the neoplastic tissue, or (2) release of the intracranial hypertension."

It might be imagined that the decision as to which of these two procedures should be undertaken is simple, but in the present condition of our diagnostic powers the decision not infrequently has to be left to the moment of operation. Under these circumstances it will be found that the two-stage method of operating I suggested in 1893 gives the necessary freedom of action to the operator and protects the patient from unnecessary risk, though with many of my colleagues I quite agree there is but little risk of shock in removing at one sitting small growths from, for example, the upper parietal region.

The removal of an intracranial neoplasm is, of course, the only means of carrying out the primal duty of the medical adviser of endeavouring to save life, but owing to the special functions possessed by the central nervous system the question to a patient whether he would choose to survive the loss of these is always open.

Indeed, it was owing to a patient deciding before an operation that no procedure involving an increase of his hemiparesis should be carried out, that I made the first observation that a simple decompression operation could cause arrest and complete degeneration of a glioma. Though the same result has been observed since in other cases, they are so few that it is impossible to draw any conclusions as to the factors which combine to render such a fortunate result possible.

The logical conclusion, therefore, must be that except in the case where the field of removal involves direct destruction of the representation of such a single faculty as speech, free extirpation of neoplastic tissue should be the rule and mere decompression the exception.

Stress may justly be laid upon this point in the present state of this subject, since, in view of the ease with which blindness, etc., can be averted by a simple decompression operation, there is some risk that only palliative operations may be undertaken when curative measures should be attempted.

The question of diminishing the increased tension which the presence of a growing tumour gives rise to within the skull is important, not only because of its immediate results in arresting papilloedema, headache, and vomiting, but also because, as Oppenheim has pointed out, like all therapeutical means, there are in its employment disadvantages to be avoided as well as advantages to be secured, and that both must be considered in discussing means of palliation during the so-called "expectant" treatment.

If the general plan of operative treatment thus indicated is followed, then the first consideration which should be given prominence—namely, the desirability of making the opening in the skull as near as possible to the lesion—is fulfilled. If subsequently it be decided to attempt the removal of the neoplasm, no difficulty will arise in dealing with the surrounding cerebral tissue. The opposite practice not only creates this difficulty but also causes confusion in subsequent attempts to perfect the localization diagnosis.

As regards the practical question of the accidental production of aphasia by reason of brain oedema, that by no means depends upon the situation of the opening, but upon that of the tumour and of its pressure directly interfering with the function of the speech cortex. I am aware, indeed, of an illustrative case in which although a tumour was suspected to lie in the left frontal lobe a decompression was performed on the right side, with the result that aphasia was not only not avoided but followed the operation, no doubt from the direct effect of the growth.

The final point for discussion is the question, Under what circumstances should simple decompression operations be performed?

The importance of deciding this question lies in the fact that such, as already indicated, merely palliative measures may be undertaken, when, on the contrary, curative operations should be entered upon.

Practically the answer can be readily supplied, since there are but two conditions under which a palliative operation is all that should be employed. These are: (1) Cases in which the neoplasm is known to be situated in a position from which it cannot be safely dislodged; (2) cases in which no localization is possible. In both of these classes of cases the execution of a subtemporal decompression is naturally the best procedure.

Concluding Note on the Usual Procedure in Neurological Practice in Regard to the Treatment of Intracranial Tumour and Syphilis.

The whole subject of the "expectant" treatment of intracranial tumour is inseparably connected with that of the treatment of syphilis of the central nervous system, for there can be no doubt that to the empirical treatment of these cases with potassium iodide and mercury is primarily due the desire, in the absence of a correct diagnosis, to try experimentally a course of antisyphilitic treatment. Moreover (from one point of view regrettably), since this treatment is occasionally followed by a modicum of success where diagnosis has failed and the case is really one of syphilitic cerebritis or pachymeningitis, the unfortunate custom has grown up in practice of devoting a long period of months or even years of incalculably valuable time to antisyphilitic treatment.

There are really two points of great importance involved in this question: first the unjustifiability of treatment of non-syphilitic cases with antisyphilitic treatment; and secondly,

the justifiability of treating syphilis of the brain by the conventional methods, namely, antisyphilitic drugs given by the mouth, intramuscular injection, or inunction. I wish to take these two points separately, as, though these themes may be thought to be very old ones, there is certainly on the first no definite procedure yet adopted except by a few, and on the second I desire to urge a modification of the present practice in the treatment of syphilitic lesions of the central nervous system.

1. Should any (routine) antisyphilitic treatment be given in cases of intracranial neoplasm, and, if so, for how long?

Unfortunately at the present time, owing to our deficient powers of diagnosing the nature of a lesion, a case presenting the symptoms of an intracranial neoplasm, and yet giving a negative Wassermann reaction, cannot be pronounced definitely and at once to be non-syphilitic in origin.

Consequently, although the case be one of glioma or glio-sarcoma, and therefore in itself uninfluenced (though surrounding oedema may be diminished), probably most practitioners would follow the routine practice of giving iodide and mercury in the hope of producing some effect.

In 1893 I drew attention to this matter, and urged, even in those pre-Wassermann days, that six weeks of such probationary treatment was the utmost that should be allowed; that unless within that period not merely temporary alleviation, but very substantial improvement, had been attained, the case should at once be treated surgically. (I shall discuss directly the value of "improvement" in cases of syphilitic lesion.)

Although the same point was subsequently taken up and argued with great force by Dr. Allen Starr, it does not appear to me that during the seventeen years which have elapsed a rational procedure has been arrived at even now, for intracranial tumours of all kinds, from fibromata to carcinomata, are still treated not merely for weeks, but even months and year, with iodides and mercury.

The present position is, in fact, one of the gravest reproach to medicine, and reform and progress can only be attained when the writers of textbooks make, in their chapters on cerebral tumour, treatment bear a definite relation to diagnosis.

I hope that this discussion will accelerate this, and that a consummation so much to be desired in the interests of the sufferers from intracranial tumour will be arrived at before 1913, or not less than twenty years will have passed since the question was first raised.

2. Is the present mode of treatment of intracranial syphilitic disease adequate?

This second question was originally raised by my teacher, Sir William Gowers, who pointed out the fact that cases of syphilitic lesions of the encephalon are not really cured, though often rapidly and very strikingly relieved, by antisyphilitic treatment, and he showed, further, that after a period of respite the symptoms tend to recur. The relative incurability of cerebral syphilis of itself suggests that the time has come to take more active steps in the matter, and especially at this moment, when Ehrlich has demonstrated that though the acute symptoms can be rapidly checked by an arsenical preparation, this apparently is not applicable to the disease when it attacks the central nervous system.

The lesions I wish specially to refer to are gummata, pachymeningitis (including haemorrhagic pachymeningitis), acute and chronic, and so-called syphilitic optic neuritis.

Though in many cases relief is obtained by drug treatment, in not a few there is no improvement or a relapse occurs. In spite of these facts the position was advanced many years ago by v. Bergmann that syphilitic lesions (he specified gummata) ought not to be subjected to surgical treatment. Partly in consequence of this authoritative statement, but partly, doubtless, because at least improvement was so commonly obtained by non-operative procedures, the question of what principles should underlie our treatment has been rather left out of sight.

I wish, therefore, to advance the view that our present lines of treatment should be remodelled in view of the analogy between the subdural and the intraperitoneal spaces. Upon this basis, and the concurrent requirement of getting as large a dose of mercury as possible in contact with the virus, I have obtained in cerebro-spinal syphilis, just as in tuberculous peritonitis, the most rapid improvement by opening the subdural space and irrigating with sublimate solution (1 in 1 000), even in cases where the ordinary routine drug treatment has failed in spite of a full and fair trial. Further, that since a gumma consists of a wholly necrotic focus of infective material, I suggest it is as important that it should be thoroughly eradicated as a similar tuberculous focus is treated.

Here, again, I would ask also for proof that a gummatous mass in the central nervous system has ever been cured by mercurial treatment, whether oral, inunction, or intramuscular. In the absence of such evidence, it clearly is only logical that a gumma cerebri should be extirpated and the subdural space irrigated freely with sublimate lotion. By this means we also secure the most direct treatment of the pachymeningitis which always surrounds a gumma cerebri, and also obtain a more immediate effect on the meningeal (pial) vessels, always in a greater or less degree affected with endarteritis.

I have carried out this procedure in all conditions of syphilitic disease of the encephalon—namely, acute meningitis, chronic pachymeningitis, chronic cerebritis, and gumma—with, in all cases but two, striking benefit. The two fatal cases were both haemorrhagic. In one a large cavity in the membranes, found at the operation to be filled with clot and emptied, was never obliterated—that is, the brain failed to recover from prolonged compression (the patient had been hemiplegic for some weeks); and in the other the haemorrhage had already invaded the ventricles.

Thus the procedure involves no risk in itself. Hence this line of treatment, though it may appear at first sight to be more "heroic" than the ordinary methods, as a matter of fact is not so.

Syphilitic Optic Neuritis.—The occurrence of optic neuritis in a syphilitic subject is frequently regarded as a local manifestation of the infection and treated as such. I wish to suggest for discussion whether such optic neuritis is not always a concomitant of subacute meningitis. A near parallel to such a condition is the optic neuritis observed in children suffering from otitis media.

With this view of the pathological causation of syphilitic neuritis, it is easy to understand that opening of the subdural space and irrigation with 1 in 1.000 sublimate lotion offers the best opportunity of a rapid cure of the condition.

This is the case, and a simple subtemporal irrigation on one side will secure immediate, and as far as I have seen permanent, subsidence of the papillitis. Though "syphilitic optic neuritis" often clears up satisfactorily, it has the characteristic tendency of the disease to relapse, and also, owing to its chronic duration under ordinary treatment, leads to a certain degree of atrophic injury of the nerve fibres. The irrigation method of treatment meets both these contingencies in the most efficient manner.

I have previously directed attention to the beneficial results of treating spinal pachymeningitis cases by the irrigation method, and would now conclude by pointing out that in all syphilitic conditions of the nervous system the problem of rapid treatment is the same, namely, the local application of mercury, and that this can be safely accomplished by subdural irrigation.

REFERENCE.
1 *University Hospital Medical School Magazine*, No. 1, 1910.

THE State Charities Aid Association of New York has, we learn from the *New York Medical Journal*, appointed a special Committee on Mental Hygiene, which announces the beginning of an "aggressive campaign" for the prevention of insanity throughout the State. The committee states that its campaign will be conducted on lines similar to the crusade against tuberculosis which is being carried on by the State Charities Aid Association. It will endeavour to instruct the public regarding those causes of insanity which are tangible and therefore preventable. Among the features of the campaign will be an exhibit similar to the tuberculosis exhibits, which have played such a large part in educating the public regarding the causes and prevention of tuberculosis. Among the members of the committee are: Dr. M. Allen Starr, professor of neurology in Columbia University; Charles L. Dana, professor of neurology in Cornell University; Dr. Frederick Petersen, professor of psychiatry in Columbia University, and Dr. Bernard Sachs, neurologist to Bellevue and Mount Sinai Hospitals.

The Bradshaw Lecture

ON

CANCER.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON WEDNESDAY, DECEMBER 7TH, 1910,

BY

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In 1884 the late Sir William Savory chose as the subject of the Third Bradshaw Lecture, the Pathology of Cancer. He pronounced the cancer cell to be an "embryonic" or "rudimentary" form of cell, possessing great powers of multiplication and of endurance, but differing from true embryonic cells in its lack of power of differentiation. And then he used these remarkable words:

> And while tumours of the most innocent type touch, and indeed pass into, natural structures, the most malignant touch, if they do not actually pass into, the class of parasites. . . . The interval between the worst kind of cancer and a parasite must be a very narrow one.

He suggested that the experiments on cancer grafting had probably failed owing to the "crude conditions under which they have been performed." He concluded thus:

> Before we shall ever be able to answer the question, why or how do tumours form? it seems to me we must be able to solve the problem of normal growth and development, and to answer the question why or how it is that these continue up to a certain point and then suddenly cease.

For the succeeding nineteen years the Bradshaw lecturers dealt with other subjects, but in 1903 Sir Henry Morris gave a learned review of the many theories that had been advanced to explain the origin and nature of cancer, and specially discussed two theories: The microbic or parasitic theory, which he held to be "non-proven," and Cohnheim's theory of "cancer matrices," ante-natal and post-natal. This theory he strongly supported as explaining all the facts of the disease then known, and he confidently foretold for it a speedy acceptance by all pathologists.

Two years later, in 1905, you, Mr. President, announced, as the title of your Bradshaw Lecture, "Carcinoma is a Parasitic Disease," and stated:

> That the carcinoma cell is an independent organism, like many a protozoon; that it lives a life which is wholly independent and proper to itself; and that it lives as a parasite in the body of the animal which is affected with carcinoma, deriving its nourishment from the host, and having nothing to pay the host for the sustenance of which it robs him.

You shrank from accepting Hauser's suggestion that the protozoal cells of cancer are derived or descended from the living cells of the host, and asserted rather that "the parasite is introduced into the body from without."

It is needless to say that each of these divergent theories has been discussed from the standpoint of a very wide and accurate knowledge of the subject, and that each in turn has been supported with extraordinary ability and with the enthusiasm of a strong personal belief. For me to attempt another review of the same facts and arguments would be to act the disastrous part of Phaeton, and yet I propose, sir, to raise once again the great problem of the nature of cancer, not because I can read aright the riddle solved so differently, and with such mutual destructiveness, by my predecessors, but because within the last few years the workers in our cancer laboratories have added so much to our store of knowledge that it seems wise to see how far the new facts support or refute former conclusions. We are like children putting together a dissected picture, we slowly look over and often vainly try to fit together the irregular pieces of the puzzle, but gradually order comes here and there out of chaos, and as piece after piece finds its proper setting, the picture grows until the fitting in of the final fragment reveals the whole design.

DEVELOPMENT OF CANCER RESEARCH.

In addition to the influence of the general progress of biological knowledge, two discoveries have caused a great development in cancer research: the proof that cancer can be transferred from animal to animal, and the demonstration of the influence of radio-active bodies upon cell growth. Scientific workers have devoted themselves to the solution of the problem of cancer with new courage and more confident hope since they saw that it could be submitted to that experimental method which has so often dissipated the darkness of ignorance. All over the civilized world cancer research laboratories, more or less exclusively devoted to this quest, have been founded, and never before have the efforts of scientific men been so largely centred in the study of any one disease. Highly gifted investigators are devoting themselves with praiseworthy devotion to the study of the internal structure and arrangement of cancer cells, to a search for the forms and evidences of the presence of an invading organism, to a close scrutiny of all that takes place in the artificial transmission of the disease from animal to animal, and to the investigation of the various abstruse problems in bio-chemistry and physics that it is hoped may aid in the discovery of the nature and cause of cancer. This college, in conjunction with our sister in Pall Mall, by the initiation, control, and housing of the Imperial Cancer Fund, has taken a very prominent part in this movement, and it is a matter of great satisfaction that the researches carried out in our laboratory are universally recognized as having been of fundamental importance.

It is not my purpose to give a detailed account of the latest results of cancer research, but rather to briefly enumerate some of them, and to see whether and how far they enable us to unravel what has hitherto been a tangled skein.

INCIDENCE OF CANCER IN MEN AND ANIMALS.

It is now known that *cancer occurs in all races of men.* Wherever adequate investigations have been made cancer has been found, and the fuller our knowledge of any people the ampler is the evidence of the presence of cancer among them. We are unable, therefore, to attribute the disease directly to the influence of race, of climate, of diet, of occupation, of soil, of the subtler accidents of civilization, or to any of the associated and complex conditions that may be summarized as "environment." Not that these factors are without influence. Certain occupations are assuredly attended with peculiar liability to cancer; I need only mention chimney sweepers, and workers in *x* rays, tar, and paraffin; and the beneficent effect of circumcision in greatly diminishing the incidence of epithelioma of the penis, and the pernicious influence of the use of the kangri, show us how the disease may be affected by social customs. It is clear, however, that we may not regard any of these conditions as the essential cause of cancer, for the disease occurs in their absence, and we must carefully guard against confusing subsidiary, accelerating, predisposing factors with the inevitable, constant cause of the disease.

Human statistics cannot be relied upon to substantiate or define the influence of race. Dr. Bashford has been at great pains to point out the imperfect character of all statistics of cancer incidence, and he has clearly shown that the proportion of cancer reported among different nationalities is at present only a measure of the value of the material submitted to examination, and must not be taken as a true picture of the actual frequency of cancer. Only as care in diagnosis, in pathological examination, and in records improves, and becomes uniform in all races of men, shall we be able to state with precision what influence race, among many other factors, has upon the incidence of cancer.

The experimental study of cancer has, however, shown that we must not assume that all races of men are equally liable to cancer. Very early in the investigations into the inoculability of mouse cancer it was realized that there were serious discrepancies in the results obtained by different expert workers. Some of these discrepancies were caused by differences of technique, others by inattention to the age of the mice used for the experiments, and others again were due to the particular tumour experimented with. Chiefly owing to the work of Dr. Bashford, these causes of variation in the results obtained have been recognized and eliminated, and the influence of race has thereby been demonstrated. Such facts as these have come to light. Haaland found that a certain tumour grew on inoculation in nearly 100 per cent of Berlin mice, in 24 per cent. only

of Hamburg mice, and failed altogether to grow in Christiania mice. Loeb has a sarcoma which was readily propagated in white rats, and could not be inoculated into coloured rats. Tyzzer has a carcinoma found in a Japanese waltzing mouse, which he can transplant successfully in practically 100 per cent. of this particular family of mice, but which altogether fails to grow when inoculated into common mice. On the other hand, Jensen's tumour, which grows readily in common mice, cannot be inoculated with success into the Japanese waltzing mice. In hybrids resulting from the crossing of common white mice and Japanese waltzing mice, the Japanese tumour grows as uniformly and even more rapidly than in the pure Japanese mice, but in the second and third generations of the offspring of these hybrids the Japanese tumour cannot be inoculated at all. In his earliest inoculations of Jensen's tumour, Bashford found it impossible to succeed with blue mice, while he obtained 25 per cent. of success with other tame mice. He also relates that a tumour sent to him by Dr. Michaelis of Berlin was transplanted into 19 Berlin mice, with the result that nine tumours grew, but only one small tumour developed in 182 tame London mice similarly inoculated.

It is, of course, most important to keep clearly before one's mind the difference between the liability to occurrence of sporadic cancer in an individual or animal and the susceptibility of such an individual or animal to the successful inoculation with cancer transferred from another. Such facts as I have just mentioned, however, make it imperative upon us, while recognizing the presence of cancer throughout the human race, to keep a mind open to receive a demonstration, should it come, of the influence of race upon the incidence of cancer, apart from all accidental and accessory conditions.

Passing now from this first fact—that cancer is a disease of man wherever and however he lives—I would next remind you that we have recently learnt that *cancer is a disease that occurs in all vertebrate animals.* It is not limited to man, nor even to man and primates, nor even to the great family of the mammalia; it has been proved to occur in birds, reptiles, and fishes. The disease, as met with in the lower vertebrates, is not a similar disease, but veritable cancer, with the same histological characteristics and with those special biological features that we find in man—the uninterrupted growth, the power of infiltration, and the formation of metastases. The importance of this demonstration is enormous. It dissipates at once all those theories which would find the cause of cancer in any condition peculiar to man; we have to seek it in some influence which man shares with all other vertebrates.

When we reflect that there is no known instance of an external infective agent or organism which spontaneously attacks and produces its characteristic pathological effects in all vertebrata, or in all the varying physical conditions of environment in which cancer is found, the parasitic theory of cancer fails even to be a satisfactory "working hypothesis." We can only adopt it if the fact is demonstrated and Koch's conditions of proof are fulfilled; and such a demonstration is certainly not forthcoming.

That cancer can be transferred from host to host is now attested by thousands of successful experiments upon mice, rats, and dogs. Four facts have come to light during these inoculation experiments which are important to bear in mind. In the first place, the successful grafting of cancer from animal to animal is far more difficult to accomplish than is the inoculation of microbic disease. In the second place, it has been found that it is always difficult to succeed in the primary grafting experiments of a sporadic mouse tumour into another mouse, or in the first graftings of a tumour upon a fresh family of mice. In the third place, as I have already mentioned, it has been found that when allowance has been made for these variations, the success of grafting experiments may vary considerably in different races or families of mice. And then towering above these lesser facts is the greater, all-important one, that *cancer cannot be transferred to an animal of another species.*

Cancer of a mouse is readily transferred to other mice, but it cannot be grafted upon a rat, or upon any other animal of another species. The same holds true of cancer of the rat and dog, and in this specificity of cancer we see the cause of failure of all experiments to graft the human disease upon lower animals. These failures were not due, as Savory suggested, to the "crude methods" employed, but to the working of a biological law.

The fact that an inoculable disease is specific in the sense that it cannot be transferred from species to species surely must be one of great importance in any consideration of its nature, for the grouping of animals into species is not artificial. The differences that we recognize between species have a greater element of permanence than those between varieties; the offspring of crossed varieties are fertile, while the hybrids of crossed species are almost invariably infertile; the number of chromosomes in somatic cells differs widely, but it is constant for every species. Difficult, therefore, as it may be to express the distinguishing limitations of a species in terms which will satisfy the exacting criticisms of modern schools of biologists, all agree that the word connotes a reality, that it indicates an important step in the path of evolution, and that the limits between species are true landmarks.

The enormously wide range of the incidence of cancer, the uniformity of its biological characters, and its specific inoculability are a triad of facts unique in pathology and of tremendous significance. Apart from many minor considerations, I venture to submit that they are inconsistent with what we know of infective or parasitic diseases. They, too, are no doubt "specific," but the specificity is attached to the disease, and neither to the animal nor to the tissue in which it occurs. The tubercle bacillus leads to the same disease in the guinea-pig as in the man from whom the virus may have been taken. The minute anatomy of tubercle is the same in whatever part or tissue of the body it arises; it does not vary with its primary site, as is constantly the case in cancer. Cancer is distinguished from all infective and parasitic diseases by the fact that the cellular parentage of a malignant growth is always definitely marked, and that whether it originates in squamous, columnar, or spheroidal epithelium, in endothelium or in any of the forms of connective tissue cells, it retains throughout its whole life, and wherever found, characteristic features of its parent cell. Parasitic diseases are anatomically and etiologically specific—specific in their structure and cause; cancer is specific not in structure, perhaps not in cause, but in the physiological character of its cells.

THE CANCER CELL.

The essential part of every cancerous growth is the living cancer cell! The cell, whether of carcinoma or sarcoma, is the one essential part, that which contains within itself all the potentialities of the whole of cancer. While it lives as a cell, the cancer is living, when it dies as a cell, it is impossible to find or develop or excite any of the parts or agencies, or faculties of a cancer. By no one has the demonstration of this fact been carried so far, or made so indubitable, as by Bashford and his fellow-workers in our laboratories. Their investigations into what takes place in the "early stages" of successful transference of a cancer from mouse to mouse have revealed that in the tiniest practicable graft all the introduced stroma and many of the centrally placed cancer-cells die, but that the cells, or some of them, in the periphery of the graft live, do not undergo degenerative changes, and after a few days—usually about four—excite the formation from the fibroblasts of the host of a new supporting and vascular stroma, and themselves show the changes indicative of cell division. The parenchyma of the tumour, which ultimately may grow to a huge size, all develops directly from those cancer cells of the graft which were able to withstand the hurtful influences of the process of grafting. While it is possible to transfer cancer from mouse to mouse so long as care is taken to introduce living cancer cells in the graft, it is impossible to do this when the cancer cells are destroyed by pounding in a mortar, or their vitality has been injured as by the influence of heat. Indeed, Schwann's great doctrine of "*omnis cellulae cellula*" is peculiarly true of cancer.

On the other hand, it has been equally clearly shown of inoculated infective granulomata that they grow not from the graft, but from the connective tissue of the host. This difference between cancer and infective granulomata is of fundamental importance, a veritable *differentia.* The metastases of cancer and of granulomata may be alike in

some of their coarser anatomical features, such as their site, but in their nature, in their true biological characters, they are absolutely distinct, with a distinction which is vital and fundamental.

If the living cancer cell is the essential part of cancer, it is important to know what are its anatomical and physiological characteristics. A study of them demonstrates that the cancer cell is only a variation of a normal cell—it possesses neither in structure nor in powers anything not found in the healthy cell. Let me rapidly mention the established facts about living cancer cells.

First, *they possess a great power of continuous multiplication.* So far as the experiments with Jensen's tumour have gone it seems that the grafting can be carried out with it as successfully now, after seven years, as at first, and that from the small sporadic tumour in the mamma of a mouse a mass of cancer has been grown through an unknown number of mice, amounting to far more than a thousand times the bulk of the original tumour, or even of the original mouse. Bashford has particularly laid stress upon this striking fact, and has spoken of it as a "new" biological fact, but in that I think he has probably exceeded. Certainly in the protozoa such apparently endless multiplication and growth of living cells can be recognized. And when we cast our minds back to the development of the human ovum—a single cell—and remember that from it directly descends the entire mass of cells which form and maintain through his threescore years and ten the full stature of a man, we see a power of cell growth which we need not shrink from comparing with that of a Jensen's cancer cell. But it is particularly noteworthy that in cancer this power of continuous multiplication is spontaneously manifested most often in the cells of an organism that has passed the period of youth and maturity, and has already entered upon the declining phase of life.

The second characteristic feature of the cancer cell is that *it retains the inherited limitations to type* of the cells among which it first appears. The descendants of an epiblastic cancer cell retain, in the main, the features of their early parent—a hypoblastic cancer cell bears its own family likeness, and the sarcoma cell is always a distinctively mesoblastic cell. Even in those remarkable experiences that have been so carefully studied and admirably recorded by Bashford and Haaland, when they observed, in a series of transplantations of an undoubted epiblastic cancer of a mouse, its gradual conversion, first into a cancer with a richly cellular stroma, then into a "mixed" tumour, and finally into a sarcoma, it is clear that the mesoblastic cancer (sarcoma) thus formed sprang from the connective tissue cells of the hosts, and that its cells are in no sense or degree the lineal descendants of the original cells of the epiblastic cancerous parenchyma.

Thirdly, *cancer cells develop and differentiate but little and irregularly.* Thus, in a squamous epithelioma there is great variation in the extent to which keratinization of the cells occurs, and in some cancers we see such departures from type as a change from squamous to columnar cells and from spheroidal to columnar cells, or vice versa; the differentiation of a mammary cancer may be into acinous or glandular carcinoma or into a combination of the two. This variation in growth has been best observed in the experimental work in laboratories, where the opportunities of studying the same strain of tumour in many succeeding stages of its growth and through many hosts affords scope for observation such as can never be found in human pathology.

The development of the cancer cell is neither purposeful nor effective. In glandular carcinoma no regular grouping of acini around primary ductlets is found, nor does the cell metabolism issue in useful secretion. In a squamous carcinoma no impermeable protective covering is formed, and in a sarcoma no useful fibrous bands or aponeuroses, no attached and functional muscles, no perfectly constructed and useful bone is formed. In cancer there is cell multiplication in exaggerated degree, but a lack of adaptation to the many and varied needs of the organism. The cancer cell shows no new faculty or endowment, no power of "rising on its dead self"; it is a less highly endowed cell than its physiological parent.

Then, again, *cancer cells exhibit periodicity in their growth.* Bashford has found that a mouse tumour has its period of active growth succeeded by one of less activity, and that the success of artificial transference of the disease to other mice rises and falls with this wavelike activity of the tumour, and he has found that this periodic activity is transmitted to the tumours which arise from the grafts—that it is an inherent or inherited property. Similar variations in the rate of growth and activity of cancer are also seen in the human subject, and we see periodic activity in metastases—periodic activity in their occurrence as well as in their growth. We must not look upon such variations as due of necessity to a change in the resisting forces of the patient: they are probably due to the inherent periodic growth of cancer. Physiological periodicity of cell growth is, of course, well recognized; I need only mention such examples as the sexual periodicity in animals and especially in the human female, the periodic growth of young animals, the periodic growth of hair, and the periodicity in the life-history of salmon and the periodic variation in the colour of the fur and feathers of many mammals and birds.

The study of *the form of cancer cells* and the attempt to find in it some index of their nature has yielded but little that is positive. The many determined efforts to see within them foreign living forms, whether of bacteria, of protozoa, or of yeasts, have failed. Bacteria may, of course, intrude within a cancer cell, but it was a cancer cell before the intrusion, and we may assert with some confidence to-day that there is no visible evidence of parasitism in the cancer cell. Nor has the hopeful and brilliant study of the mitoses of cancer by Walker, Moore, and Farmer and their followers lifted the veil. It seemed that the theory that cancer was a gametoid tissue would explain much, or at any rate establish on a firm footing the nature of the disease. But we must regretfully consent to see that hope unfulfilled, and admit that mitosis is no key to the riddle.

Quite recently it has been shown by Beckton that the tissue cells of man, except the keratin cells of squamous epithelium, the cells lining the collecting tubes of the kidney, the cells of unstriped muscle, and the unimpregnated ovum, contain certain granules, which are known as Altmann's granules. While unrecognizable in the protoplasm of the ovum, these granules are seen in the unincubated blastoderm of the egg, and are readily recognized after six hours' incubation. Beckton has found them in mouse embryos of 8 mm. and 12 mm. in length, and in the rat embryo of 30 mm. They appear, therefore, very early indeed in the descendants of the original ungranulated cell of the ovum. Beckton states that these particular granules are seen in the cells of the stroma of carcinoma, but *not in the cells of the parenchyma*, and while abundant in the protoplasm of inflammatory and granulomatous tissue they are invariably *absent from the cells of sarcoma*. Beckton examined twenty-one mouse tumours, sent him by Dr. Bashford, and in fourteen of them there were no granules, but in five instances they were present; they are, therefore, commoner in mouse tumours than in human malignant growths. Should further observations confirm Dr. Beckton, we shall not only have a very useful method of diagnosis, but he will have established a morphological difference between cancer cells and most normal cells. He will also have afforded an anatomical proof that cancer cells are not embryonic cells. Beckton's valuable research has been carried out under Dr. Lazarus-Barlow in the Cancer Research Laboratory of the Middlesex Hospital.

Of the *intracellular metabolism of the cancer cell* we know but little; it seems to beget no toxin, to generate no new substance, and to depart but little from the chemistry of health. And yet we cannot doubt that its special biological characters are inseparably linked with some intracellular chemical peculiarities. We have evidence of this furnished by some very careful spectroscopical observations made by Mr. Mottram in Dr. Lazarus-Barlow's laboratory, by which he has shown that the potassium content of the red corpuscles of cancerous patients is considerably higher than in health, the difference being represented by the figures 1.5 and 3. The sodium content, on the other hand, shows no change. The importance of this observation is enhanced by the further fact that while the sodium content of all carcinomatous tumours is about the same, the potassium content of primary cancerous growths is higher than that of secondary, and the potassium content of squamous-

celled tumours is higher than that of spheroidal celled. Mottram has, therefore, shown that the cancer cell has a chemical coefficient, but it is a modification in degree, and not in kind, of that of the healthy cell.

These are the facts at present known about cancer cells as independent entities. We must now look at them as members of a community, and study their relations to neighbouring cells.

First we must notice *the disproportionate growth of the cancer cell.* It bears no relation to the growth, the needs, or the condition of the neighbouring cells and tissues, and, as it often tends to outgrow its stroma, and, by the pressure of its cells, to compress the capillaries, we have in this fact an explanation of the frequent degeneration, fatty and otherwise, of the cancer cells. The haemorrhage which so frequently occurs in some cancerous growths may also be in part due to the fact.

The disproportionate growth of the cancer cell has been mistaken for evidence of its being an independent organism, but we shall see abundant reason for rejecting this view and for being certain that a cancer cell is an altered body cell.

The pressure caused by the incessant and disproportionate *multiplication of the cancer cells causes not only complicated infoldings of the cancer itself, but flattening and distension of the adjacent soft tissues.* In his second Scientific Report, Dr. Bashford has published

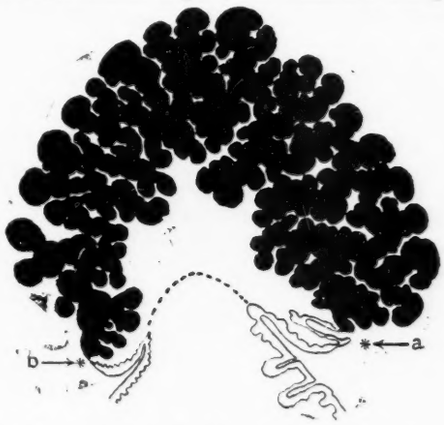


Fig. 1.—Squamous-celled carcinoma of lower lip: man. Growth a folded and crumpled sheet, intercalated between outer and inner surfaces of lip. Shows folding of skin (a) and mucous membrane (b) over margins of growth, with great lateral displacement of the normal tissues adjoining either margin.

drawings of an epithelioma of the lip to show the enormous folding up of the cancerous parenchyma, and that what at first sight appears to be a solid infiltrating growth is really an immensely extended superficial growth, folded up into a ball, filling at first the narrow space it acquired for itself by pressing aside the yielding tissues of the lip and then projecting on the surface.

Fig. 2.—Squamous-celled carcinoma of lower lip; man. Shows sharp demarcation of growth from adjacent skin (a) and mucous membrane (b). At (a) the elongated epithelial papillae of the skin are displaced by the pressure of the growth; they are also being undermined and will be pushed off. At (c) the hair follicles already show displacement from pressure.

Bormann has shown that the papillae immediately next the growing edge of an epithelioma of skin or tongue are not exaggerated in size or cell activity, but are compressed and stunted. These observations run right athwart the commonly received notion that as soon as epithelial or other cells have acquired "malignant" properties they burrow deep into the surrounding tissues, and that the similar adjacent cells also show active growth and a readiness to participate in the disorder, as if "infected" by the malignant tendency. Unless Bashford's and Ribbert's statements are erroneous, they afford a demonstration that cancer cells in their growth give a qualified obedience to the law which regulates and controls the growth of the normal cells from which they are derived.

But if the first effect of cancer cells upon their neighbours is to compress them, their second and far more important power is to *invade the adjacent tissues.* This power of infiltration, as it is called, or permeation, is so well recognized that I need only mention it. The growth may penetrate even to bone and marrow, and in doing so cells, or groups of living cells, pass into lymphatic or vascular channels, and are carried along by the slowly or swiftly moving stream therein, and may lodge in distant parts and develop into metastases. But they may not do so. Handley's studies of the process of lymphatic permeation have shown us that the passage of a cancer cell along a lymphatic is attended with great peril to it, the lymphatic endothelium has great power of cancer destruction, and for every cancer embolus that resists it successfully and thrives and multiplies—bursts through the lymphatic wall and develops as a metastasis—many a one falls a prey and dies. The same holds true of the haemovascular embolisms. These have been studied by Borrel, Haaland, Bashford, Murray, Tyzzer, and others, and the resisting or destructive influence of the vascular endothelium on the cancer cells has been clearly demonstrated. The cancer cell, when it wanders from its proper plane or sphere, has to fight for its life; normally and in favourable conditions the "odds" are against it, and our *post-mortem* records bear abundant testimony to the ability of the forces of resistance to these cell intrusions to limit the disease, in many cases to the area originally attacked, even up to the death of the patient from the disease. While therefore we must not for a moment under-estimate the grave importance of the permeation of cancer and its tendency to develop metastases by the transference of the living cancer cells to distant parts of the organism, we must be careful to regard this in its due proportion and to remember that all infiltration and every metastasis is only accomplished at a period later than the earliest onset of the disease and after the overthrow of very real natural resistance.

In this connexion I would mention that cancer-bearing mice are not a favourable soil for the grafting of other cancerous tumours until the period at which they spontaneously develop metastases. In the earlier stages the resisting forces of the organism can hold at bay the cancer cells, whether spontaneously or artificially introduced into the tissues; in later stages either form of inoculation becomes potent. The occurrence of metastases is the resultant of two forces—the vigour of the invading cancer cell and the resistance of the tissues to its development within them. This resistance may be inherited or racial, naturally acquired by age, artificially acquired—as shown by Bashford's experiments with the inoculation of various tissue-extracts—and it may be lessened by the persistent presence of a primary cancerous growth.

A very interesting fact about the influence of the cancer cell upon its neighbouring cells is its *compelling them to form a supporting and vascular stroma for it,* of a type governed by the cancer cell and not by the stroma-yielding mesoblastic cells. Along with this, however, there is clear evidence that the surrounding cells exert an influence upon the cancer cell; this is shown by its greater vitality and power of multiplication in the young than in the old, by its more active growth in certain races or families of animals, and by its inoculability being limited to animals of the same species. Two other facts are also full of significance: In the experiments in the propagation of mouse cancer it has been shown that when a graft is implanted in a fresh family or race of mice it grows with great difficulty, and that with each generation of grafts the success increases until it often reaches 100 per cent. This must not be confused with the increased virulence of an infective organism that may

be produced by passing it through a series of animals' for the virulence of the cancer cell is only raised for the one particular variety of mouse and not for others. It is a subtle influence of the host upon the introduced cancer cell which makes it more congenial to the tissues of the particular variety of mouse. And then we have the remarkable fact that Bashford discovered that in certain cases the repeated inoculation of an epithelial cancer stimulates the mesoblastic tissues of the host so intensely that the stroma becomes proportionately more and more abundant, and more and more richly cellular, while the epithelial growth lessens, until the carcinoma is replaced by a sarcoma. No more surprising, wonderful fact has yet been forthcoming from cancer laboratories than the demonstration of this "transformation" of an epiblastic malignant growth into a mesoblastic cancer, the carcinoma exciting the development of a sarcoma, and thereby being itself destroyed.

What is the meaning of all this? Remember that the escape of epithelial cells into the tissues beneath them is a physiological process. Years ago Dr. Creighton demonstrated it in the case of the breast; he also showed that these permeating epithelial cells were destroyed in the lymphatics. Permeation is not a new power of cancer cells, although it exists in them in an unusual degree. I think we can recognize in the facts I have just mentioned evidence that the cancer cell is not an alien cell; it influences, and is itself influenced by, its neighbours as a normal cell is. The mutual adaptation and mutual influence of the cancer cell and its stroma surely speak of common descent—of blood relationship, if I may use that term.

If, now, we attempt to piece together these various facts, what disease picture do they make? When we consider the intimate connexion shown between cancer cells and the cells of the individual, and, perhaps, above all, the artificial conversion of a carcinoma into a sarcoma, we cannot recognize in cancer an independent parasitic growth, protozoal or other. Not only are the necessary evidences of the presence of specific pathogenic microbes absent, but both in broad outline and in particular detail the life-history of cancer is fundamentally different from that of the great host of known bacterial and other invasions. Nor is it possible any longer to see in cancer a reversion to the embryonic type of growth; that, before all else, is orderly, regular, with a long vista of development, differentiation, and functional activity. Cancer is cell life that is disorderly, irregular, with a minimum of development, differentiation, and function. Still less can we find a satisfactory explanation of this great disease in a circumstance so accidental, so trivial, as the sudden awakening into activity of entirely supposititious "embryonic reste."

WHAT IS CANCER?

What, then, is cancer? Before answering the question, think of the fertilized human ovum, a single nucleated cell. Picture it dividing into 2, 4, 8, 16, and 32 cells, all similar in size, form, and structure. Trace on these cells as they multiply by division, and see them silently range themselves in the three primary embryonic layers—epiblast, mesoblast, and hypoblast—and by that step effect a separation of cells which to our senses appear identical, but whose destiny marks them out as absolutely distinct. Follow on the wonderful drama of development, try to realize the orderliness of it all, the varying differentiation of epithelia, endothelia, and connective tissues. Observe the intimate association of these embryonic layers in the evolution of parts and organs, their perfect co-operation, their mutual dependence. See the rising up here of mesoblast into papillae, ever clothed with epiblast, and there the down-growth of epiblast or hypoblast into glands ever supported and nourished by mesoblast. Know that all this goes on with unerring precision, but with almost endless variation in proportion, with countless differences in form and function of cell, with an ordered cycle of chemical changes so wide in its range, so varied in its detail, that we seem to be only at the threshold of a knowledge of it. Remember that this development proceeds with measured step to a certain definite extent only, that then in spite of all kinds of variation in supply and demand, and of adverse and favourable conditions, a certain level of cell life and growth is maintained for a more or less determined period, and that then first here, then there, the processes seem to abate and fail, the flame of life seems to flicker until the unknown and wonderful changes of age draw on. I have failed to bring up before you a tithe of the marvels of the full development of a man from a single fertilized cell, or of the equally marvellous maintenance of his full manhood through the years of maturity and of the gradual decline into old age. But even in my faulty picture of it we see the outworking of a wondrous law, obedience to which brings perfection of development, of life, and of health.

Now summarize our facts about cancer. Consider the disproportionate multiplication of certain cells, their imperfect, irregular, and useless differentiation; their failure to form Altmann's granules, their excessive affinity for and need for potassium, their insistent intrusion into surrounding tissues, their imperfect co-operation with the other cells, and, finally, their selfish greed which enables them to live when other cells are failing and perishing for lack of nourishment—what is it all but a failure of, or a revolt against, that great cytological law or impulse which first manifests itself in the primary division of the ovum, and lasts on till the death of the organism? Cancer is not a disease attacking the body from without, it is the result of a breach or failure of fundamental cell law—a law of which we know only the results; a law so majestic that obedience to it results in perfect development, perfect health, the full measure of days, and disobedience to it may slowly spell out all the inscrutable woes of cancer.

Let us look now at certain conditions which are known to exert an influence on the causation of cancer, and see what confirmation they afford to this view of the nature of cancer.

1. *Age.*

And first it is fully established that cancer is greatly influenced by age. In man its incidence rises with each decade after the third. Of animals this is as true as of man. Thus the average life of mice in laboratories is three years, and sporadic cancer occurs almost invariably only after they have reached the age of two. It is from India, where the cow is a sacred animal, and is allowed to live to old age, that we have most evidence of the occurrence of cancer in that animal. What we have so long known in the case of man, therefore, must not be regarded as in any sense an "accident" or peculiarity in him—it is one of the fundamental facts of cancer.

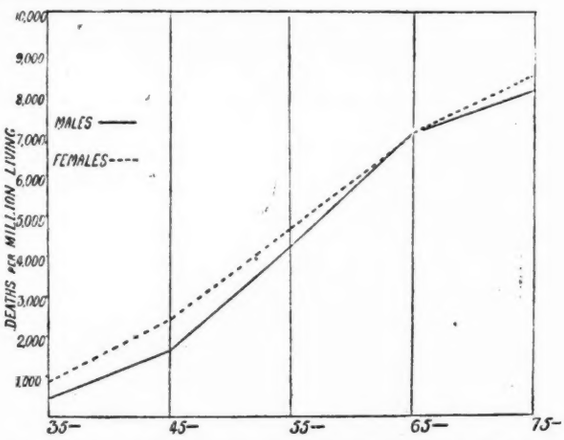


Fig. 3.—Mortality from cancer per million living at each of five groups of ages from 35 years upwards (1906).

Cancer is undoubtedly a disease that generally arises in cells that are growing, or have grown, old. But senility of tissue is not a necessary condition of its growth, and indeed is not a favouring condition. Who of us has not been impressed by the terribly rapid advance of the disease as it occurs in young adults? Who has failed to notice the equally slow and difficult progress it makes in some old people? Of all conditions which influence the rate of progress of cancer in any particular site, I know of none more potent for mischief than the youth of the individual. From the cancer laboratories we get most definite statements that it is in young mice that cancer grafts grow with most certainty and with most rapidity. So important is this that Bashford has had to

point out that, before a just comparison can be made between the results of inoculations under varying circumstances, it is absolutely essential that the experiments should be carried out in animals of known age and of the same age. Now this fact—supported alike by clinical human experience and by experimental animal experience—is of great significance; it teaches us that the condition precedent to cancer is not in the nutrition of the tissues outside the cancer cell, but within the cancer cell itself; the external conditions for the growth of the cancer cell are more favourable in the young than in the old, and a cancer cell having once started on its errant course can profit to the full from the greater nutritive vigour of the young. Incidentally this fact is a strong indication that cancer is not an infective disease allied to bacterial invasions. So far as is known of them, old age is not a favouring factor in their incidence, and it is the veriest negation of all our knowledge of these diseases that a condition favourable to their origin is unfavourable to their spread.

2. *Sex.*

It is well known that cancer is more frequent in women than in men, and that its incidence increases earlier, and attains its maximum sooner in them than in men; after the age of 70 the incidence is practically the same in the two sexes. The greater frequency in women is due to the special liability to the disease of the generative organs of that sex. I have prepared a chart founded on the statistics of the Middlesex Hospital (see Third Report from the Cancer Research Laboratory). The continuous black line

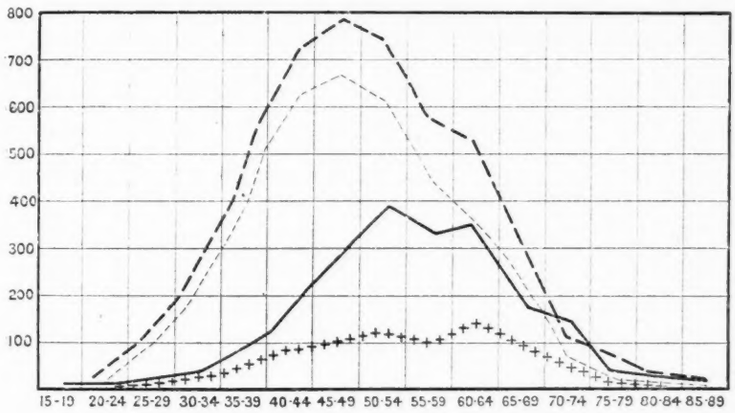


Fig. 4. ——— females, - - - females; cancer of uterus, vagina, vulva and breast only. ——— males; + + + females; excluding cancer of uterus, vagina, vulva, and breast.

marks the age incidence of cancer among men; the heavy broken line indicates it in women; the line + + + shows it in women, excluding cancer of their generative organs, and the fine dotted line gives it in the female generative organs. The table shows the close parallelism of the cancer curve in women and in their generative organs only, and the near approach of the curve for women, when we exclude disease of their generative organs, to that for men. In other words, the different incidence of cancer in the two sexes is not a sex difference affecting all the body tissues, but is the result of the special liability to the disease of organs possessed by one sex only. Now these organs—chiefly the breast and the uterus—have a definite functional life which does not correspond at all with the life of the individual, but, starting at about 14, usually begins to terminate about 50, and during those years these organs are the seat of frequently repeated periods of great cellular activity followed by periods of decline and atrophy. It is, I believe, because of this fact that these organs are specially prone to cancer as they get old—before the rest of the woman ages—and so we see the explanation of the facts that cancer is more frequent in women than men, and that its age incidence differs in the two sexes.

3. *Chronic Irritation.*

Of the reality and importance of chronic irritation as a condition precedent of cancer I cannot stay to speak, nor need I—the facts are too well known. Attempts have been made to find the underlying cause of cancer when it follows chronic irritation in some change in the subepithelial tissues, and the Hunterian lectures of my colleague, Dr. Victor Bonney, on this subject are no doubt fresh in your memory. He showed that interference with the continuity and perfection of the subepithelial elastic tissue layer always preceded a carcinomatous growth, and, conversely, that cancer never originates in perfect normal tissue. It has been objected that his beautiful preparations fell short of a demonstration that the changes shown were antecedent to the earliest development of cancer, and that they were as compatible with consequence as with precedence. It is, however, surely a striking fact that these changes are only met with at the seat of the primary growth and in the nearest lymphatic glands, and not in the true secondary growths. But while accepting Dr. Bonney's demonstration, I think we cannot for a moment regard any change in the subepithelial tissue of a part as the sole or most significant change in what have been well called "precancerous conditions." The essential features of such chronically irritated and precancerous tissues are increased cell formation associated with defective differentiation or cell development, and the changes in the subepithelial tissues may be either a result of this or another expression of similar nutritive changes.

The cytological effects of what we call chronic irritation are essentially two—increased cell multiplication and defective intracellular metabolism. Now the life of a cell is not to be expressed in periods of time but in terms of its multiplication or proliferation. An epithelium does not become old because its individual cells have existed for a particular length of time, but when the multiplication of the cells necessary for its maintenance has been repeated a certain great number of times. Therefore chronic irritation, by adding to the frequency of cell division, is producing the special condition of cellular old age; it is, indeed, equivalent to the ageing of a tissue. Its other effect is equally significant. The imperfect cell development and metabolism carried on for generation after generation of cells is clearly akin to senile defects in cell growth and metabolism, as shown, for instance, in diminished secretion and in the impairment of all nervous functions. The word "irritation" is rather apt to suggest a stimulating process; it is important to remember that chronic irritation is the most effective mode of hastening on changes closely akin to, though not identical with, those of old age—the conditions in which we have seen cancer to occur most often.

4. *X Rays.*

Prolonged exposure to x rays may undoubtedly cause cancer. The influence of x rays upon cell life is known to be most important. Lazarus-Barlow and Somerville Hastings have shown that in the ova of Ascarides exposed to x rays the division of the cells is more rapid than in "controls," while fewer of the ova come to maturity. If we look at the hands of an x-ray worker we see the same—increased production of epidermic cells, with imperfect development of the too numerous cells. Think of this progress carried on and on, will it not cause a premature ageing of the formative epithelial cells, associated with an imperfect elaboration of the cells?

5. *Alcohol.*

The last etiological factor to which I can refer is alcohol.

The influence of alcohol on the incidence of cancer is really important. Dr. Tatham's statistics of the mortality of various occupations from certain diseases revealed the fact that cancer is twice as frequent among brewers and London publicans as among clergymen, and that the cancer incidence in any trade varies with the attendant habits as regards alcohol. Dr. Newsholme has dealt with this subject in the light of figures obtained from the United Kingdom Temperance and General Provident Institution, and has shown that the mortality from cancer among the insured in that institution, if represented by the figure 100 among the non-abstaining males, would be represented by 72 among the abstainers. He laid

United Kingdom Temperance and General Provident Institution.

Ages of Insured Persons and of Persons Dying in Each Group.	Aggregate Population or Years of Life at Risk during Years 1891, 1896, 1901, and 1906.		Deaths during the Years 1891, 1896, 1901, 1906.						Ages.
			From All Causes.		From Malignant Diseases.		From Malignant Diseases. Males only.		
	Abstainers' Section.	Non-Abstainers' Section.	Abstainers' Section.	Non-Abstainers' Section.	Abstainers' Section.	Non-Abstainers' Section.	Abstainers' Section.	Non-Abstainers' Section.	
Under 24	2,314	445	6	2	—	—	—	—	—24
25–34	8,559	4,140	23	23	—	—	—	—	25–34
35–44	13,406	9,005	58	58	1	4	1	4	35–44
45–54	15,645	13,571	143	177	20	14	22	14	45–54
55–64	12,475	14,000	229	365	20	38	20	33	55–64
65–74	6,858	8,833	301	516	22	64	20	50	65–74
75—	2,121	2,736	274	408	13	20	12	17	75—
	61,378	52,730	1,034	1,549	76	140	73	118	

emphasis upon the fact that this statement was based upon scanty evidence; I have, therefore, endeavoured to increase the evidence, and Sir Thomas Whittaker has very kindly brought the figures supplied to Dr. Newsholme up to date; and the accompanying table, which is prepared in identically the same manner as that given by Dr. Newsholme, shows that from the larger number of lives the same conclusion is to be drawn.

It comes to this, then, that all these so-called causes of cancer—age, chronic irritation, *x* rays, and alcohol—agree in being conditions that wear out the cells of a part, they add to the number of cell generations, they deteriorate the evolution of the individual cell, they appear to lessen the hold over the cell of the great primal cell law, and so they cause cancer.

To some extent this causes cancer by directly or indirectly inducing chronic irritation; but let us note that it is a protoplasmic poison—that is, a substance which directly interferes with, and mars, cell metabolism and cell life.

Primary Cancer not always Single.

One objection that may well be raised to this view lies in the occurrence of primary cancer as a single lesion. It is easy at the first blush to find in this a complete refutation of what I have been trying to establish. But the more I have thought of this objection the less convinced I am of its worth. A physiological essay *de senectute* would be very valuable. Wherein lies the true essence of senility? Is it simultaneous in all our tissues? Are we animated illustrations of Oliver Wendell Holmes's "wonderful one-hoss shay"? And if not, if one organ or tissue may grow old before its fellows, are we quite wise in holding that all the individual cells of a given organ must grow old together?

But we must not lose sight of the fact that cancer is not always single in its primary seat. My colleague, Dr. Young, among others, has published a number of instances of multiple primary cancer in the Fourth Report of the Middlesex Hospital Cancer Research Laboratory. In my limited experience I have seen such cases as these. In one case a woman presented three cancerous growths in her left breast, all of them noticed at about the same time, no one of them much larger or notably different from its fellows. I removed the breast, and have one half of it on the table before me. Three times I have been consulted by women with a tumour in each breast, small, far distant from each other, and, except for enlarged glands in the axilla, without evidence anywhere of metastasis, so that I could only regard them as simultaneous primary cancers. One of these patients submitted to amputation of both mammae in 1899, and has remained without evidence of metastasis until now, so that it is reasonably certain that in her case one breast was not infected from the other. Many times I have seen cancer occur in the breast at an interval after removal of the opposite breast when there was no evidence of metastasis elsewhere, and the subsequent progress of the case was so exactly similar to the disease occurring in one breast only, that I was forced to see in it a new attack of the disease, and not the development of a metastasis from the earlier tumour.

Twice over it has happened to me to be called to do colotomy for chronic intestinal obstruction that had become complete, and in which examination of the rectum revealed a stenosing growth within easy reach of the finger, but further examination showed a second independent, annular carcinomatous growth, in one case in the descending colon, and in the other in the transverse colon.

Last year I was consulted by a patient whose left breast had been removed for cancer in 1902 and who had had three subsequent operations for local recurrences. She came to me complaining of an extremely severe pain along the distribution of the ulnar nerve, and I found a very dense, and firmly fixed lump of growth close to the coracoid process. I advised her to try what radium would do to relieve her pain; immediately after exposure to radium for forty-eight hours, carried out by Dr. Finzi, she lost all pain in the arm and hand, and it never returned. The radium was applied on a few subsequent occasions in the hope that it would lead to the disappearance of the growth—of this happy result I saw no proof; but meanwhile an epithelioma developed in the left labium majus, ran a rapid course, and was the cause of her death in December, 1909.

In the lip I have on several occasions seen two or more quite independent primary growths, and in June last I saw a very early epithelioma of the tongue which proved, when subsequently removed by Mr. Spencer, and examined by Dr. Bashford, to be starting from four separate centres.

Of multiple rodent ulcers I have had very numerous instances.

Multiple epithelioma in lupus and in *x*-ray dermatitis is also well known, and from Kashmir we are told of multiple kangri cancer.

Were I, on the other hand, to try to give you any adequate conception of the irregular incidence of old age I should need a separate lecture and a much wider knowledge than I can even pretend to possess. But let us take one example—and that the best known of all, the hair—what numerous varieties in the senile changes in the hair we see! It may fail to grow without change of colour; it may lose its colour and persist in growth; again these variations may affect the hair in one part of the body only, or in small areas only, or even be limited to the product of a single hair follicle. If age can thus influence the growth of certain hair-forming epithelium, why may not the age-effect that leads to cancer start in a single epithelial cell?

Immunity.

The only other aspect of the cancer problem to which I would refer is expressed in the word "immunity." This word is specially associated with the processes by which we are enabled to withstand success-

fully the attacks of pathogenic organisms. It is clear, however, that if cancer is not due to any similar cause, but arises from a failure to continue the cellular development of a part exactly in accordance with the pattern of normal growth, we must not look for immunity from this disease along the lines in which we find it for infections. Careful search by many observers has failed to find evidence in cases of cancer of the activity of those protective forces which play so great a part in the life-history of infective diseases. In the last Croonian Lecture at the Royal College of Physicians Dr. Andrewes gave a very full account of the part played by leucocytes in protecting against infection. There is no like tale to be told of their activity and power against cancer. Blood changes there are in the *late stages* of the disease, when other factors than the presence of a malignant growth are active, but none of a protecting character have been demonstrated in the early stages of cancer, when that disease alone is present to disturb the harmony of nutrition. We have in this another fact which strengthens the contention that cancer is not an infection-disease. If the disease differs wholly in nature from those infections in which immunity has been chiefly studied, the problem of cancer immunity will also be different.

Accepting the view of cancer that I have tried to submit to you, cancer immunity might be evidenced in one or more of the following ways:

1. The power of living cells to conform to the law of normal development and to avoid that increased multiplication, defective differentiation, and tendency to intrude themselves into, and grow in, neighbouring cell territories, which together connote cancer.

2. Opposition to the intrusion of cancer cells into, and their development in, heterologous tissue.

3. Inhibition of the growth of cancer or destruction of living cancer cells.

What can we say under each of these heads? Do clinical experience and experimental pathology throw any ray of hope across the dark sea of malignant disease? They do. The deep impress of the primal laws of development holds the cells of our tissues in true and loyal obedience to the very end, in the almost infinite majority of cases, and in the large majority of individuals. The incidence of disease, and immunity from its initial attack, are of course complementary, and the same fact can be expressed either in terms of disease or in terms of immunity. Thus the public have been distressed by the oft-repeated statement that one out of every eight women who reach the age of 35 dies subsequently of cancer; and of the men who attain 35 years, one of thirteen dies of cancer! This no doubt is true, but we can express the same fact in terms of immunity, and say that seven out of the eight women, and twelve out of thirteen men, of 35 years of age, will not die of cancer! This is the great initial fact of cancer immunity—that in spite of added years, and of all the unfavourable conditions which tend to wear down the obedience of cell life to its fundamental laws, 90 per cent. of men and women who pass down the hill of life hold this dread enemy at bay. The two ways of quoting our cancer statistics always remind me of a scene in that incomparable allegory which we all had read to us in our childhood, and therefore too often put aside in our maturity. You remember, sir, that when the Pilgrim is taken into the Interpreter's house to have some of the mysteries of human experience explained to her she is shown, to use Bunyan's inimitable words, "a room where was a man that could look no way but downwards, with a muck-rake in his hand. There stood also one over his head with a celestial crown in his hand, and proffered him that crown for his muck-rake; but the man did neither look up nor regard, but raked to himself the stones, the small sticks, and the dust of the floor." The one in ten of failure that our pathologists tell us of is "muck-rake lore"; the nine in ten of success in the great drama of cell-life is like the angel's crown—it is immunity.

Of the second kind of immunity—the opposition to the intrusion of cancer cells into the heterologous tissue—we have plenty of evidence. There is first of all the difficulty in cancer grafting, and then the fate of many of the cancer cells and minute cancer emboli that get into lymphatics and blood capillaries; the majority of them are overwhelmed by the opposing influence of the endothelial cells, and only one here and there is ever able to survive. Or let us recall our clinical experience of the very slow progress of many cancers, of their long-enduring limitation to their primary site, in some cases, and of the extraordinarily long period—amounting to ten or even more years—that may elapse between the removal of an active cancer and the development of a metastasis. Do not all these well-established facts tell us that the organism is not left powerless, defenceless, before the intruding cancer cells, and that the opposing foes are not so unevenly matched as students of the failures of these saving powers—the "muck-rake" students—would persuade us? There is a force of immunity which can protect, and does protect, against the chief mischievous power of malignancy; and when a surgeon asserts that every case of cancer can be cured by a sufficient and sufficiently early operation, I can assent when I remember the reality and the efficiency of this force of immunity, which is his great ally.

The third form of immunity is what is popularly known as the "cure of cancer"—*the disappearance of cancerous growth.* Those who are studying the disease in mice report to us that in these animals it is quite a frequent occurrence for a grafted cancerous growth, after attaining some size, to slowly shrink and disappear, and in some series of experiments a large proportion of the grafts that have "taken" have, after a period of growth, spontaneously vanished. Among the 500 sporadic cases of mouse cancer observed by Bashford this event has been witnessed only two or three times. In human pathology, I fear, it is a still less frequent fact, *but it undoubtedly is observed.* It is most frequently seen in the gradual absorption and disappearance of small secondary nodules in the skin and subcutaneous tissue. It is occasionally witnessed on a grander scale. Many years ago I showed a patient at meetings of the Clinical Society who recovered spontaneously and completely when she seemed to be at death's door from cancerous deposits in the lung and the neck of the femur, secondary to cancer of the breast. She remained well for several years; unfortunately I have been unable to trace her for the last four years. More recently I have had an equally satisfactory and striking case.

Mrs. E. W., aged 52, was admitted to my cancer ward of the Middlesex Hospital on February 28th, 1906, suffering from advanced cancer of the uterus; that organ was fixed in the pelvis, the cervix was ulcerated, and masses of growth were felt invading the anterior wall of the rectum; she suffered from constant discharge and irregular haemorrhages. In February, 1907, I find this note: "The vaginal cervix is the seat of a nodular growth, which is hard, but apparently not ulcerated; it extends all round the cervix and infiltrates the posterior wall of the vagina and anterior wall of the rectum. There is also some extension down the left vaginal fornix. The uterus is fixed." She became slowly but steadily worse, and for many months was unable to leave her bed, owing to frequent haemorrhages and the consequent weakness and the pain, which movement increased. In the early summer of 1908 she gradually lost the use of her lower limbs, and the paralysis extended to both upper limbs until she was literally unable to move hand or foot. My colleague, Dr. Campbell Thomson, kindly examined her on several occasions and satisfied himself that the paralysis was due to exaggerated peripheral neuritis. During the late summer she improved, and when I returned from my holiday at the end of September, 1908, I found that she could just move her hands a little; she was also stronger, with less pain and less discharge, and a local examination showed that the uterus was less firmly fixed than before. Not to weary you with details, Mrs. E. W. got quite well, all the local evidences of disease vanished, and I made this note in July, 1909: "Uterus is small, senile; vagina narrowed at its upper end, vaginal cervix very small, no ulceration or growth to be felt in cervix or vagina. Uterus is mobile. The original disease has entirely disappeared.

After keeping her for several months to make sure of her recovery, we had to discharge her from our Cancer Charity as she no longer fulfilled the necessary condition of suffering from cancer, and she now earns her living by needlework.

Here is another case:

*(a) Miss J. C. F., a trained nurse, discovered a lump in her left breast in 1896, when she was 46 years of age. In June, 1897, Dr. Anderson of Faversham removed the breast, and in September, 1898, he removed a lump from the axilla. In January, 1899, she came under the care of Mr. Farnell of Eastbourne,

*The cases marked (*a*) were treated by double oöphorectomy; those marked (*b*) were treated by *x* rays, by my colleague, Mr. Cecil Lyster.

who removed a recurrence in the axilla and two or three nodules in the skin. In May of the same year he thoroughly cleared out the axilla, as there was evidence of more extensive disease there. In November, 1899, and in March, 1900, he excised small recurrences in the axilla. In May, 1900, he again operated upon the axilla, and found it impossible to remove the growth under the arm. I saw this patient in September, 1900; the wound in the axilla was unhealed, and there was a firmly fixed mass of growth just below the clavicle; the upper limb was greatly enlarged from oedema. Mr. Farnell and I advised the patient to submit to a certain treatment, which was forthwith carried out. The wound quickly healed; the oedema of the arm and all evidence of the presence of a growth disappeared.

I saw Miss F. last month, after an interval of ten years, and found her enjoying excellent health; the scars of her numerous operations are the only sign that she has ever been the subject of cancer.

Here is another case:

(*a*) A. E. W., a single woman of 41, was admitted under my care in January, 1900, with cancer in both breasts. The disease had been noticed on the right side for two and a half years, and there had been ulceration for a year and ten months; on the left side it had been known to exist for six weeks, and the lump had doubled in size in that time. The disease infiltrated the entire right mamma and the skin covering it, and fixed the part to the ribs beneath; there were enlarged glands in the right axilla and beneath the lower end of the right sterno-mastoid muscle. Several nodules of secondary growth were scattered around the primary growth, and above the nipple was an ulcerated surface measuring 2½ in. by 3½ in. There were also two areas of marked venous congestion of the skin, one below this breast and one over the pectoral muscle towards the point of the shoulder. In the outer part of the left mamma was a firm infiltrating mass the size of a large walnut, and in the left axilla were enlarged and tender glands. On January 31st an operation within the abdominal cavity was carried out. Within three weeks the congested areas I have mentioned had become pale, the ulcer was healing, and the secondary nodules were smaller. By March 9th there was no nodule to be felt in the left breast, and I could only detect in that axilla one tiny gland the size of a buckshot; on the right side the lower half of the breast was free from all evidence of growth, and the ulcer was healed. By March 27th all that was left of the originally extensive disease were two or three very small nodules of the skin of the chest. On April 18th symptoms of intestinal obstruction developed, an operation was performed, and I regret to say that this patient died quite suddenly while some adhesions were being separated. At the autopsy a few small nodules of growth were found in the subcutaneous tissue over the right breast. No other traces of the cancer could be detected. A nodule removed in March presented characteristic appearances of spheroidal carcinoma with a relatively large amount of connective tissue.

Here is another good case:

(*b*) A. B., aged 57, was first seen by me in July, 1903. Her left breast had been removed for carcinoma in April, 1900; four operations for recurrence had been performed since. There was a very considerable local recurrence, enlargement of the third costal cartilage, deposit in the lower flap and under the arm. Under treatment all the growths have disappeared, the patient is in good general health, and continues at her work. I have seen her from time to time during the last seven years, the last time in October of this year; she was then quite well, except for a little superficial ulceration, which seemed to be due to the treatment that had been employed.

Here is a somewhat similar case:

(*b*) S. R., aged 44, was first seen by me at Middlesex Hospital in September, 1909. Her right breast had been removed for carcinoma. There was an extensive secondary deposit in the chest wall with a wide and deep ulcer. Under treatment this ulceration rapidly cleaned and healed, and the growth had disappeared, leaving a very little thickening to be felt where before there was a mass of deposit. Her health is quite good and she does all her work.

(*b*) J. N., aged 43, was first seen by me in May, 1909. Her left breast had been removed for carcinoma. There was a considerable secondary mass of growth in the lower flap and under the axilla. The deposit has steadily decreased in size, and in November of this year there was only a slight thickening to be felt. Her health is good and she is doing full work.

(*b*) E. C., aged 44, was sent to me from another hospital as an incurable case in December, 1903. A columnar carcinoma of the rectum had been removed by Kraske's method. There was local recurrence of the disease, and a mass of growth the size of an orange protruded from the sacrum. Thirteen months later—January, 1905, the following note was made: "Good general health, doing all his work (as a postman), no sign of disease." In August this year, 1910, he was seen again, and gives this history: At the end of 1905 there was noticed a warty condition of the old scar; this ulcerated. It was removed, and proved to be a squamous epithelioma. The wound healed well, and he has had no further trouble. He continues his work as a postman, and enjoys good health. He was seen in October of this year, nearly seven years after his first visit.

Several years ago I excised the left superior maxilla of a woman for cancer. Some months later her attendant in the country sent her back to me at the hospital with extensive recurrence; the cavity left by the removal of the bone was filled with a mass of growth. A year later the doctor asked me to see his patient again, and to my delight I found her in excellent health, and without a trace of the local disease.

Another case that I can never forget was that of a woman who had had her left breast removed for cancer and subsequently came to the Middlesex Hospital Cancer Charity with local recurrence, growth in the glands of the neck, and a large brawny arm. She got quite well, and was able to earn her living again at the wash-tub. I had another similar case where the "brawny arm" got quite well, and all the recurrence of the disease disappeared.

THE HOPE OF CURE.

This is not an exhaustive list of such cases that I have myself seen, and I am sure that my experience is not singular. In some of them the disease was not "cured" in the sense of being wholly and permanently removed, but in several there is strong reason for thinking that this word "cure" may be justly used. In many of the cases treatment directed to this end has been carried out, in some there has been no special treatment. In my brief records of these cases to-day I have not mentioned the treatments employed, because my present purpose is not to vaunt a remedy but to state a fact—that cancer, even when advanced in degree and of long duration, may get better, and does sometimes get well. *There is cure of cancer*, apart from operative removal.

All therapeutic cures are obtainable only by the working of physiological forces, and the first hope of therapeutic success comes with the observation of the efficiency of unaided Nature to accomplish cure. You may say to me there is little comfort in all this; that I enunciate a philosophical concept, and tantalize you by a record of very rare exceptions in the grey, grim drama of cancer. Not so. These cases, rare though they be, are the sun of our hope. In the darkness of night it is everything to know that there is a sun towards which the earth is revolving, and that if we fix our eyes on the east, we shall soon see the grey promise of the dawn and then the many-coloured heralds of the golden sun itself. And as the victims of cancer call to us in the dark night of despair "Watchmen, what of the night?" oh! it is much to know that for cancer-stricken man there is also a sun of healing. We envy the astronomers who know so well the laws regulating the movements of the spheres that they foretell the happenings of the universe with a precision that is the despair of workers in all the other branches of natural science. But with all their knowledge of these laws, they cannot hasten on the day, or affect in one small circumstance the movement of a planet, or alter the destiny of a single grain of meteoric dust. But when the biologist shall know the laws that govern cell-growth, with a knowledge akin in its sweep and accuracy to that of the astronomer, he will have the power to prevent, to control, and to cure, cancer.

THE American Society of Medical Sociology is the name of a new society, the purposes of which, we learn from the *Medical Record*, are set forth in the following announcement: "Recognizing the intimate relationship between disease and the social-economic system under which we live, recognizing that many diseases are caused directly by our social and economic conditions, recognizing that the efficiency or inefficiency of our treatment often depend upon the economic condition of the patient, recognizing that there are many problems deeply and vitally affecting the welfare of mankind, which are left practically untouched by any existing medical society, the American Society of Medical Sociology has been organized for the purpose of studying radically all questions of the socio-medical nature, and invites your co-operation." The President of the society is Dr. William J. Robinson; the Secretary, Dr. A. C. Jacobson, 12, Mt. Morris Park West, New York.

The Bradshaw Lecture

ON

THE RESULTS OF BRONCHIAL OBSTRUCTION.

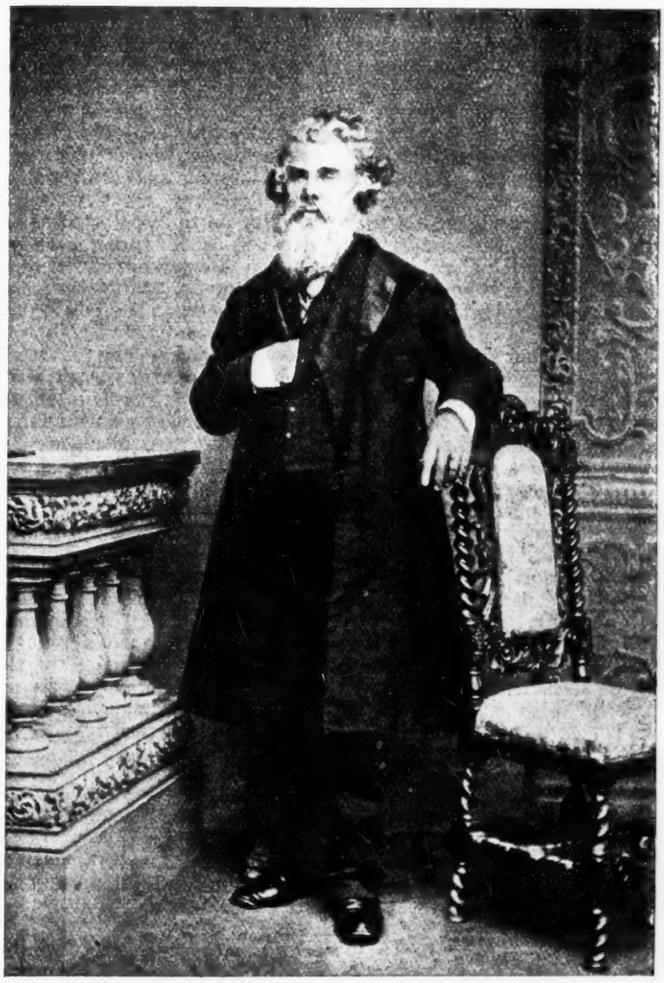
DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON NOVEMBER 1ST, 1910.

BY G. NEWTON PITT, M.D.CANTAB., F.R.C.P.LOND.,
HYSICIAN TO GUY'S HOSPITAL AND LECTURER ON MEDICINE.

[*With Special Plates.*]

MR. PRESIDENT AND GENTLEMEN,—My first duty is to thank your predecessor in the chair for the honour he has done me in nominating me for this lectureship to-day, and to express the diffidence I feel in choosing a subject on which it may seem there is not much that is new to be said.

We are met to-day to do honour to the memory of Dr. William Wood Bradshaw, who, it would appear, was a man of wide interests—he contributed papers on such subjects as the use of cod-liver oil in chronic rheumatism, on narcotics, on abdominal abscess, and other non-professional articles to the *Miscellany* and elsewhere. Born in 1801 at Bristol, according both to Foster's *Alumni Oxoniensis* and to the inscription on his grave, he was educated at the Westminster and Middlesex Hospitals, taking his M.R.C.S. in 1833. In the early part of the same year he became M.D.Erlangen. He became an Extra Licentiate of this College in 1841, after examination by the President and the "Elects," which entitled him to practise beyond seven miles from London. In 1854 he was elected a Fellow of the Royal College of Surgeons of England. In 1859 Dr. Coplans Hawkins and Dr. R. P. Smith nominated him as a Member of this College, which nomination was approved. At the mature age of 43 he matriculated at Newton Hall, Oxford, and was granted a degree in 1847 without any examination. He married the widow of a wealthy jeweller at Andover, and, according to Mr. Rickman Godlee, to whom I am indebted for his portrait and for much of this information, her money was to be left away in case she remarried; but they bought the reversion, married, and settled down at Reading. He seems to have been a cultivated, refined, somewhat eccentric man with a rather theatrical manner, and never did much practice. He died in 1866; his widow founded a lectureship at each of the Colleges in order to perpetuate his memory.



DR. WILLIAM WOOD BRADSHAW.

THE RESULTS OF COMPRESSION OF A BRONCHUS.

The results of compression of a bronchus may be the following:

1. The lung may be slightly reduced in size. There may be definite diminution in the entry of air, but the resonance may be unaltered, and even *post mortem* beyond an increase in the amount of mucoid contents, and a diminution in the amount of air in the lung, this may be all that can be observed, even when there has been definite pressure on the tube.

2. The chest may be hyper-resonant, the lung over-distended, and the diaphragm displaced down abnormally. This occurs only with partial obstruction of the tube when respiration is vigorous, and will be discussed under the results produced by aneurysm.

3. The lung may be reduced in size, airless and solid from collapse. The chest will be dull on percussion. This results when the obstruction to the tube is complete, or when respiration is feeble. It may occur within a few hours, and was studied by Lichtheim by observing the effects of introducing foreign bodies into the bronchi so as to completely block them, but practically complete obstruction is generally due to other causes, and rarely to the presence of a foreign body. In the early stage the bronchi beyond the obstruction are empty. The lungs in the first and second conditions also tend gradually to become more or less airless.

4. The bronchi become filled with retained secretions, at first chiefly mucus, but catarrhal changes soon ensue and cells accumulate, with purulent and inflammatory products as well.

5. Secondary inflammatory changes take place, due partly to the entry of secretions into the alveoli, so that what has been called a retention pneumonia ensues; the alveoli fill with catarrhal cells and giant cells appear, although they are unconnected with tubercle, as has been shown by inoculating animals with the products. When alveolar walls remain long in contact, organization with obliteration takes place and new connective tissue is formed. The bronchi normally often contain a few staphylococci and streptococci, which when retained in suitable media begin to develop, with the result that pyrexia and a more or less acute pneumonic change develops.

The changes that have taken place so far may all pass away and leave but little damage; but two further changes soon take place—a general fibrosis of the lung beyond the obstruction and a bronchiectasis. These ultimately develop, whatever be the initial process, if the obstruction persist.

6. Dilatation of the tubes. This does not take place equally in all the tubes obstructed, and its distribution is largely determined by local causes. When only one branch of a bronchus has been pressed upon, the dilatation is limited to the tubes in its area. Generally the tubes at the posterior and lower part of the lung are the most affected, probably because the secretion tends to stagnate there, and set up local destruc-

tive changes, as the patient is in the semirecumbent position.

Normally there is a constant secretion of mucus in the bronchi, which passes imperceptibly out into the larger tubes and thence to the trachea, but we are quite ignorant what is the amount normally secreted in twenty-four hours. When a bronchus is occluded the mucus at once begins to accumulate, and is capable of being secreted under pressure, so that as with an obstructed gall bladder the tubes become over-distended. Now bronchial contents cannot pass through the bronchial wall on account of the basement membrane; they can only pass out by the bronchus, or be sucked back by inspiration into the alveoli which remain patent, and so on into the lymphatics and the glands. Normally the contents pass almost entirely by the bronchus, because the initial act of expiration consists in the contraction of the lung by its own elasticity, which as the alveoli empty drives the secretion out of the smaller bronchioles into the larger tubes, to be then carried on by the forcible muscular expiration. With a collapsed lung this initial mechanism fails. As the alveoli become blocked, there is a greater suction on those that remain, and this leads to further occlusion of the alveoli, but the movement of the chest on the affected side is always more or less feeble. The result is that, whether the lung is distended or collapsed, the bronchi become distended with mucoid or muco-purulent contents under high pressure, and hence the walls yield. Owing to the interference with the circulation, which is largely dependent on the suction of the alveoli as they open up with inspiration, the arteries being on the proximal and the veins on the distal side, the tissues are insufficiently nourished, and this, added to the local irritation, causes the bronchial walls to deteriorate, so that the elastic and muscle fibres tend to disappear and local dilatations occur.

It is an old controversy as to whether inspiratory or expiratory efforts are the more efficient in the production of bronchiectases, and I am sorry to say that at the present day the latter theory seems to have the more advocates. In the cases under consideration it is difficult to see how violent expiration, compressing the lung forcibly, as with a cough, can throw any greater strain on the inside of the bronchi than it does on the outside. If the same pressure is applied all round the wall of a bronchus it cannot tend to dilate it. The increased pressure of the contained air is the result of the pressure applied to the outer surface of the bronchus. On the other hand, if it is borne in mind that aspiration is applied to the surface of the lung by inspiration, which tends to open it up, and if the alveoli fail to respond, strain is thrown on the deeper parts, such as the bronchi; if there is no obstruction, they open up and fill with air from the trachea, but when the bronchus is obstructed they must be subjected to strain which tends to dilate them. The feebleness of the respiratory movements spares them greatly, but the contracted condition of the lung tends to set up an inspiratory dyspnoea, and paroxysms occur from time to time, especially with exertion, which must aspirate the tubes and gradually make them dilate.

Consequently we do not find marked dilatation except when there is also in these cases definite fibrosis. The slighter degrees of dilatation are associated with but slight consolidation of the lung. The presence of pleuritic effusion usually inhibits, or entirely prevents, the dilatation of the bronchi, because the lung, not being in contact with the pleura, is no longer held up by capillary attraction between the two surfaces, and therefore is not subjected to so much aspiration. There is no evidence that connective tissue in contracting is capable of producing traction on the tubes at all comparable with that exercised by the powerful suction action of inspiration. It was noted many years ago by Dr. Charlton Bastian that in one-fifth of all cases of cirrhosis of the lung the tubes are not at all dilated. This is what might naturally be expected, as respiration would probably be feeble in many, but if the fibroid change were the essential cause of bronchiectasis it would be inexplicable.

It has been suggested that the accumulated weight of the contained secretions will suffice to distend the terminal tubes when a bronchus is compressed by an aneurysm. The terminal tubules are not the ones that are especially dilated, and the tubules lie in a closed box, the chest, and are supported outside by the same pressure as that inside them. The pressure inside the chest may be slightly increased, but there is no difference between the pressures inside and outside the bronchi, which is the important factor. The essential factors which lead to dilatation of the tubes would therefore appear to be local changes in the walls, the accumulation of secretion under tension, and the effects of inspiration on a lung which is not capable of expanding satisfactorily.

7. Fibroid thickening of the lung. There are several factors which conduce to this result: inflammatory and organizing connective tissue changes result (*a*) from the retention of the secretions, (*b*) from the prolonged collapse of the alveoli, (*c*) from the broncho-pneumonia, (*d*) from the peribronchial changes which follow on the destruction of the bronchial epithelium, which generally takes places, and finally (*e*) from the interference with the pulmonary and lymphatic circulations which normally depend on the opening up and the contraction of the alveoli. Moreover, when we bear in mind that in health the alveolar surface of each lung amounts to 100 square metres, each air cell being bathed in a film of blood 10 μ in thickness, we can realize what a difference it must make to the nutrition of the tissues when the alveoli fail to open and the amount of the circulating blood is enormously reduced; hence retrograde fibroid changes must gradually develop. The fibroid change is therefore also a natural sequence of obstruction, but the causes are not quite the same as those which produce the bronchiectasis.

8. Secondary infections producing a septic pneumonia breaking down into abscesses are not infrequent, and vary with the cause; in some they are essential and early, in others a late and accidental development.

9. Gangrene. This especially occurs with malignant disease and when the pulmonary artery is occluded. The communication between the bronchial and pulmonary arteries is a free one, but varies in different cases, and hence gangrene does not always occur even when the pulmonary artery is compressed. The condition may also result from a very virulent infection.

10. Putrefactive changes. Although the bronchi are often dilated, the contents are not always foul. The change is always a serious one, as it accelerates the destructive changes in the lung and introduces a severe toxic poison into the system; the organisms are usually anaërobic, and hence are but rarely cultivated.

11. As a secondary result of the bronchiectasis, especially if foul, there may be a pleurisy or an empyema.

Although stridor is a symptom that at once attracts attention, it is to be noted that it was present in but a very small proportion of the cases examined; it is marked when the trachea is involved, but otherwise was noticeable in only two or three of the cases of growth and aneurysm, yet severe dyspnoea was common.

Causes of Bronchial Obstruction.

Bronchial obstruction may arise from causes without or within the bronchus. Usually only one bronchus is affected, but in some cases the trachea is involved, as well as one or both bronchi. The external causes producing compression are:

1. Aneurysm of the aorta (35).
2. Malignant disease (56) of:
   - (*a*) Oesophagus, epithelioma (16);
   - (*b*) Bronchial glands—(1) primary, usually sarcoma (26); (2) secondary to growth at a distance (6).
3. Enlarged caseous or suppurating glands (12).
4. Gummata (2).
5. Abscess (3).
6. Dilated left auricle (1).

The internal causes are:

1. Bronchiolitis.
2. Syphilitic ulceration with scarring (5).
3. Primary malignant disease of a bronchus (usually columnar-celled carcinoma) (8).
4. Foreign bodies in the bronchus (8).

The material I propose to discuss is collected from our records at Guy's Hospital, and I desire to thank my colleagues for their kind permission to refer to cases under their care. I shall only discuss the general results and give a few illustrative cases.

ANEURYSM OF THE AORTA.

During the period taken, out of 11,000 *post-mortem* examinations there have been 140 aneurysms of the thoracic aorta. Thirty compressed the left bronchus, and 16 of these eroded into it; 5 compressed the right bronchus and none eroded it. To contrast the results of compression produced by the various causes it may be noted that in this series, in 16 cases—that is, one-half—there was bronchiectasis beyond the obstruction, but in only 8 was it associated with a marked fibroid thickening of the connective tissue and increased pigmentation of the lung with a thickened pleura. In several (6) there was also an acute terminal pneumonia, and in 4 an acute septic pneumonia; in 3 there was an acute gangrene, and sometimes there was an acute pleurisy, but only once was there a pleuritic effusion. When there was no definite dilatation of the tubes the lungs generally showed bronchi full of muco-purulent secretion, often with collapse and a more or less airless lung.

The dilatation of the tubes takes place only in the part of the lung beyond the obstruction, and is irregularly distributed, being generally least marked in the anterior part. The amount varies greatly; in some cases the distension of the tubes is but slight, when the lung may be also collapsed or pneumonic. Marked increase in the fibrous tissue, as it occurs less frequently, appears to be to some extent a secondary change, and to be partly set up by the absorption of the irritating contents. In advanced cases the fibrous trabeculae stand out, the lung is very tough, and may be riddled with intercommunicating cavities. In only one in twelve was an acute gangrenous condition noted, although in many the contents were very foul. The bronchiectasis requires at least two or three months in which to develop, but occasionally it took a year or more, and it is very remarkable how very latent the constitutional symptoms may be so long as the changes are limited to the fibroid lung beyond the obstruction. When much foul secretion is expectorated, the healthy part of the lung is apt to become infected, and if an acute septic pneumonia develop, the disturbance to health is intense.

The *ascending arch* is not in very close relationship with the right bronchus, and only occasionally will an aneurysm of this part (usually a saccular one) compress the bronchus, and then on its anterior surface; not infrequently it will also involve the trachea; in none of the cases did it rupture into the bronchus. Occasionally the azygos vein, which is in close relation to the right bronchus, may also be compressed, and this may be the explanation of the only case with pleuritic effusion. In none of the right-sided cases did the breath sounds entirely disappear, nor did a local bronchiectasis develop.

A sac connected with the latter part of the *transverse arch* may compress more or less completely the left bronchus on its outer and anterior surface, and often the trachea as well, and very rarely the left pulmonary artery which lies above the bronchus (Fig. 1). This arterial stenosis probably accelerates retrograde changes in the lung and the development of the fibroid thickening, but it did not in any case lead to gangrene. In no case did an infarct form, and in only one did an aneurysm rupture into the pulmonary artery. When the aneurysm comes off lower down it will compress the bronchus from behind and on its outer side (Fig. 2).

Sometimes, however, before the bronchus is completely occluded, the lung will become over-distended, there will be a hyper-resonant note, and the distended lung may displace the heart and push down the diaphragm. That this condition may result has been almost entirely overlooked by authors, and no reference is made to it in the textbooks. Yet over-distension, we know, not infrequently results if the respiration is vigorous, when there is laryngeal obstruction in diphtheria, in tracheal obstruction from an enlarged thyroid, thymus, or aneurysm, in asthma with spasm and therefore, with stenosis of the smaller bronchi, and in acute bronchitis and bronchiolitis.

It is also what we might expect. With inspiration the chest expands and the surface of the lung closely attached to it by capillary action follows and the air is sucked past the obstruction as the lung attempts to open. With expiration there is a contraction of the lung, due to its elasticity, which is feeble, but sufficient for ordinary purposes. This drives the air from the smaller to the larger bronchi, because the pressure in the former is the greater. When forcible expiration is applied, the bronchi as well as the lung tissue are compressed with an equal pressure; if there is no obstruction the air passes on, and the pressure therefore falls in the larger bronchi. When an obstruction exists, however, this mechanism fails, the air has greater difficulty in escaping than it had in entering, and the lung becomes over-distended. The pressure may be so much raised that the diaphragm may be displaced two inches and the heart pushed out of position.

This condition gradually develops and persists for a certain time, but by degrees the bronchi fill with secretion, thus increasing the difficulties of the ingress of air, and as the contained air is not replaced, and is subjected to high pressure, it becomes absorbed by the pulmonary blood, while the lung becomes solid, airless, and dull on percussion. Lichtheim has shown experimentally that when the bronchus is completely occluded this airless condition develops almost at once.

In six of the cases the symptoms were so suggestive of pneumothorax that this diagnosis was more than once suggested.

This possibility of over-distension as a result of bronchial obstruction has been so far overlooked by all authors that the only definite recognition of the condition I have noted, is by the late Dr. Pearson Irvine, who, in the *Pathological Transactions* for 1878, recorded a case of aneurysm pressing on a bronchus in which the lung was larger than normal, although fibroid and bronchiectasic; he came to the conclusion that the result of the pressure had been first to over-distend the lung, that then the secretion had accumulated in the bronchi, and the air had been absorbed, while fibrosis and bronchiectasis from the greatly increased tension had compressed the blood vessels and impaired the nutrition of the tissues. C. Jacobsohn has also more than once noted that the position of the dullness set up by a growth at the root of the lung may vary with respiration owing to the over-distension of the affected lung, which is best shown by the *x* rays.

CASE I.—*Saccular Thoracic Aneurysm Compressing the Left Bronchus and Producing an Over-distended Lung.*

By some it was thought that the case was one of pneumothorax. The patient was a man, aged 29 years, admitted in November, 1905. He had been in the army and had had syphilis. Cough had been present for a year, and had been worse for the last three months, with dyspnoea and pain in the left chest. He had no great distress while in bed; the left chest moved badly; there was no tactile vocal fremitus, and no voice nor breath sounds on the left side. On percussion the note was hyper-resonant. There was no cardiac dullness on the left, and on the right there was dullness, which varied with respiration, extending from the fourth rib out to beyond the right nipple and down to the liver. There was marked epigastric pulsation, the heart sounds were faint, and no bruit was audible. There was compensatory breathing over the right chest. There was considerable uncertainty with regard to the diagnosis, but it was thought that most probably the condition was due to an aneurysm pressing on the left bronchus. The patient was examined with the *x* rays. The whole of the left side of the chest was remarkably transparent compared with the right; no foreign body was visible; the heart was displaced nearly 2 in. to the right of the sternum with deep inspiration, and back again behind the sternum with expiration. The diaphragm was depressed on the left side, but no trace of any aneurysm could be seen (Fig. 3). The temperature was normal and the pulse 72. There were no stridor, no evidence of any syphilitic ulceration of the trachea and bronchi, and no expectoration. It was elicited that three months previously a crust of bread had gone "the wrong way," but had this passed into the bronchus there would have been evidence before now of septic pneumonia. The extreme translucency and distension of the left chest, with the absence of any change in the aorta, threw a doubt on the diagnosis of aneurysm, and it was thought that a possible explanation of such marked translucency might be a pneumothorax, although no bruit-d'airain could be elicited, and there was no evidence on the screen of a lung compressed by air. The left axilla was explored with a Southey's tube, but no air escaped. The result of this exploration was to produce an acute attack of pleurisy, and he felt very ill for some time. His temperature two days afterwards was 99° F., and on the next day 101.6°, with a pulse of 112 and intense pain. The temperature did not reach the normal again for nine days.

In December the patient was tested with tuberculin with a negative result. Later his opsonic index to tubercle was 0.38. As the condition still remained obscure, the chest was again explored in December, with a negative result, except that there was again a sharp attack of pleurisy with pyrexia which lasted for ten days, when the condition again quieted down. At

the end of 1906 there was an impairment of resonance developing at the left base; there were still an absence of air-entry, diminished tactile vocal fremitus and voice sounds. He now developed pain with sweating at night, cough, and expectoration, and at the apex behind there were distant breath sounds. A somewhat tympanitic note was noticed near the cardiac area. No tubercle bacilli could be found. During the next month or two he had a large amount of muco-purulent expectoration which was not foul. In February he began to develop slight clubbing of the fingers, and a rub was audible over the left chest. On February 27th he had a rigor with a temperature of 105° and a leucocytosis of 33,700. He had a sharp attack of pleurisy lasting for ten days. In March the impulse of the heart had returned to the left side of the sternum. There were consonating râles at the back of the left lung and not much difference between the note on the two sides.

It was at first difficult to explain the attacks of severe pleurisy which followed both attempts at exploration. It was clear afterwards that infective fluid from the distended bronchi had inoculated the pleura, as, doubtless owing to the great pressure under which it was retained, some leaked into the pleura from the puncture. Had the lung not been under tension it would probably not have set up any infection. The obstruction to the bronchus was not complete, as there was expectoration, although the movement was so feeble that we could not hear air being sucked up to the surface of the lung. It is noticeable that so long as the lung remained quiet, and before it became fibroid, so that the contents did not pass into the lymphatics but remained in the lung, or were expectorated, the patient remained free from fever, yet the faintest trace in the pleura set up a violent reaction.

His symptoms gradually quieted down, and he continued fairly well. I did not see him from April, 1906, to the end of February, 1907, when he was seized with general pains, pyrexia, and troublesome cough. Soon the expectoration became abundant and extremely foul, so that he vomited frequently. On readmission he was very ill and feeble. The left chest was contracted; the movement was deficient, there was an impaired note at the apex and below, and it was also dull in the axilla. Over the upper spaces the entry was deficient and broncho-vesicular; below it was lost. Numerous râles were audible, with compensatory breathing on the right side. The pulse was irregular, 108; the impulse was dragged ¾ in. outside the nipple by contraction of the lung. A diagnosis of gangrene of the lung was made. The condition proved fatal on the 26th, three days after admission.

Post mortem a saccular aneurysm opening just at the commencement of the descending aorta had compressed the left bronchus and produced a condition of fibrosis of the whole of the left lung with recent septic bronchopneumonia (Fig. 4). There was bronchiectasis of the tubes beyond the compression, with cavitation due to recent putrefactive infection, which was most marked in the posterior part of the lower lobe (Fig. 5).

Until I saw this case I was quite unaware that a partial compression of a bronchus was capable of producing an over-distended lung, which might be confused with pneumothorax.

CASE II.—The over-distension of a lung when there is pressure on the trachea, together with urgent dyspnoea, is well shown in Fig. 6. The patient was a man who was admitted with bronchitis and intense dyspnoea which soon proved fatal. The trachea was found to be compressed by an aneurysm of the transverse aorta.

The lung was enormously over-distended and had ruptured, producing interlobular emphysema, as shown by the lines of the interlobular septa, which, when fresh, were distended with air, but now are collapsed and empty.

I am indebted to Dr. E. W. Martin for the two following skiagrams, which excellently illustrate my contention. Fig. 7 represents a chest taken from the back. The left side is uniformly transparent; the intercostal spaces are wider than on the right. The diaphragm is flattened and displaced downwards and the heart to the right. The aneurysmal dilatation of the arch, with the marked excursion of pulsation, is well shown. There were well-marked signs of an aneurysm compressing the left bronchus. The condition was diagnosed on account of the skiagram as pneumothorax with aneurysm, but the appearance is really due to an over-distended lung. This will be at once apparent if we contrast it with an equally good skiagram of a pneumothorax (Fig. 8), also taken so long ago as 1902 by him. Here the air space is more transparent than was the over-distended lung, but the lung, shrunk up near its root, is obvious; this was wanting in the other picture. The heart and diaphragm are more displaced, and the latter has a much sharper outline.

[Since the lecture Dr. Martin has been able to find me the following notes of this case, which was in Victoria Park Hospital in 1902:

There was pulsation over the upper part of the sternum with a dull note. The note over the left chest was resonant, no cardiac dullness, the apex beat was 1 in. to the left of the sternum in the fifth space, the heart sounds were very feeble, but best heard on the right of the sternum; extremely feeble breath sounds all over the left chest—it hardly moves at all—and the whole chest, both back and front, is larger than the right. An exploring syringe was introduced in the seventh space posteriorly on the left side, and connected with a tube under water, when about thirty bubbles of air escaped.

The condition at that time was considered to be one of pneumothorax with aneurysm. The escape of the bubbles of air naturally suggested this; the skiagram, however, is definitely that of an over-distended lung, and I am supported in this view by Dr. Hugh Walsham. The air must, therefore, have escaped from the interior of the lung itself, and the explanation is that it must have been retained under great pressure, which is also indicated by the condition of the lungs.]

DESCRIPTION OF SPECIAL PLATES.

Fig 1.—Trachea and bronchi opened from behind to show that an aneurysm of the transverse aorta presses on the anterior and outer side of the left bronchus. In this case the aneurysm is just beyond the transverse part, and has ruptured into the bronchus at A.

Fig. 2.—A similar specimen with an aneurysm of the descending aorta laid open; this is seen to lie on the posterior surface of the left bronchus, which it compresses.

Fig. 3.—Skiagram of a chest taken from the front, showing the greatly over-distended left lung, due to pressure on the bronchus from an aneurysm. The left lung is over-transparent, the diaphragm is pushed down, and the heart is pushed over to the right.

Fig 4.—The bronchi of the same case laid open from behind. A small saccular aneurysm can be seen opening from the descending aorta, compressing, and almost occluding, the left bronchus, through which a glass rod (A) has been passed.

Fig 5.—A section of the corresponding lung, showing the resulting reduced size from fibrosis, with a general bronchiectasis. The fibrous trabeculae stand out, and there is, in addition, an acute destructive cavitation, chiefly in the posterior part of the lower lobe.

Fig 6.—A piece of lung showing interstitial emphysema. The lines of the interlobular septa were, when fresh, distended with air, due to rupture from over-distension of the lung, produced by compression of the trachea by an aneurysm, and accompanied by intense dyspnoea.

Fig. 7.—Skiagram taken from the back, showing an over-distended left lung, due to compression of the bronchus by an aneurysm. The left chest is abnormally transparent, the aneurysm with its movement above is obvious, the heart is displaced to the right, and the diaphragm is 2 in. lower than the other side.

CASE III.—*Aneurysm Compressing the Left Bronchus: Signs at one time suggesting Pneumothorax.*

The patient was a man, aged 39 years. In October, 1906, there was pain behind the sternum. The physical signs on admission left it doubtful whether he had pneumothorax or an obstruction of the left bronchus. There were cough and stridor, there was deficient movement of the left side, but it looked enlarged. Some hyper-resonance was present. There were no tactile vocal fremitus, and no breath sounds, and voice sounds were diminished; on the right side there was compensatory breathing. The heart sounds were not well heard on the left side, but were better than normal on the right side. On December 15th a skiagram showed slightly increased opacity in the region of the aorta. On January 7th there was no dullness; no breath sounds were audible over the left chest. In February breathing was audible behind in the upper part, but the cardiac impulse was not palpable. In March there was a better entry of air into the left lung, with a few râles. The impulse was in the sixth space one inch outside the nipple. On March 14th the left base was becoming dull; when the patient went out in May the left chest had an impaired note with deficient breath sounds. Fatal haemoptysis occurred a few weeks later.

CASE IV.—*Saccular Aneurysm Compressing and Eroding the Left Bronchus: High-pitched Note over the Left Chest: Signs suggestive of Pneumothorax: Fibrosis with Bronchiectasis.*

The patient, a man aged 38 years, had had cough and pain in the chest for six months. The left chest was *less flattened* than the right, there was defective movement, and a *high-pitched note* all over on the left side. There was no cardiac dullness and no dullness in the axilla. Voice sounds were deficient and breath sounds absent. Behind, the *left chest*

DR. NEWTON PITT ON THE RESULTS OF BRONCHIAL OBSTRUCTION.

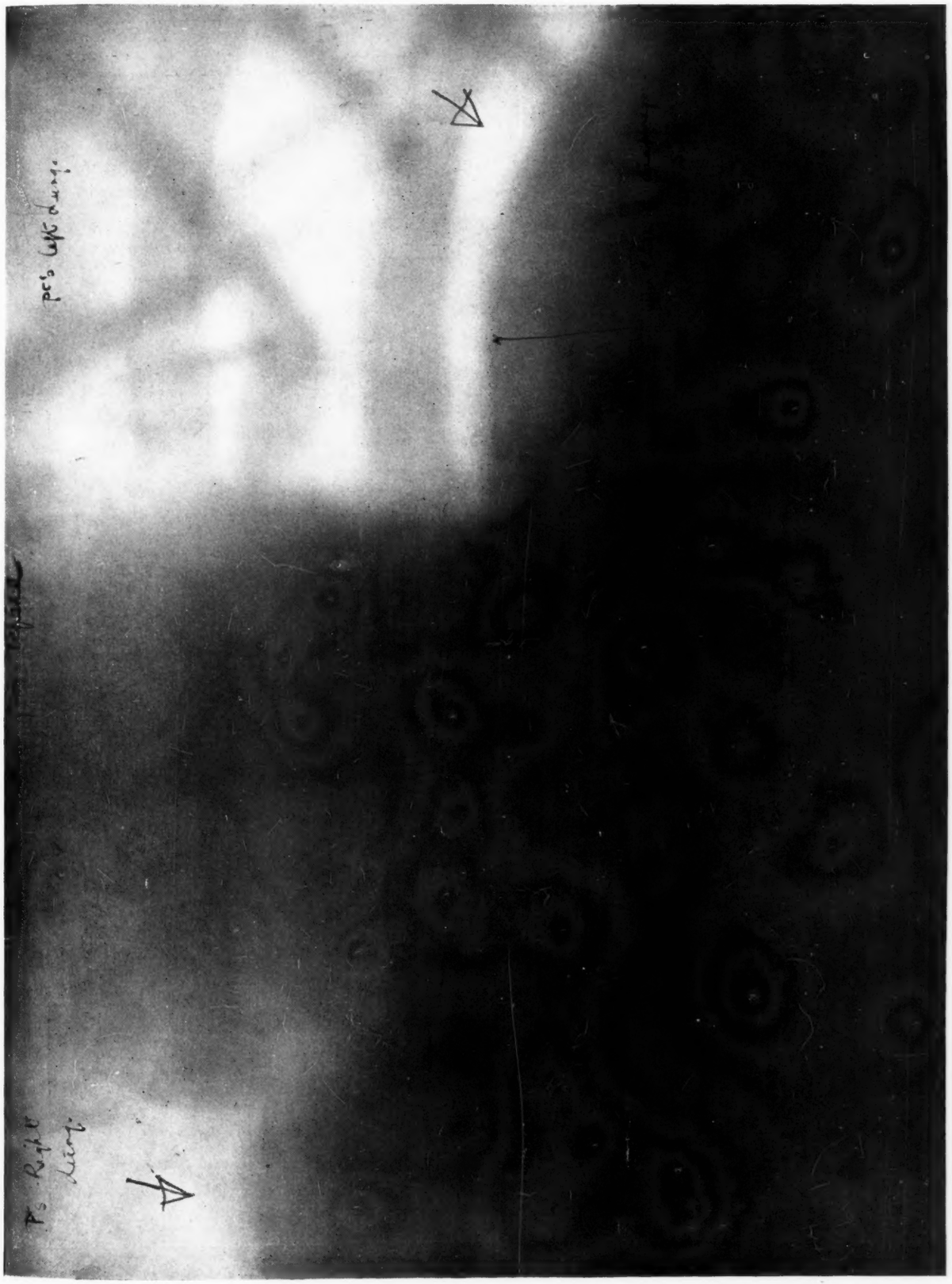


Fig. 3.—To show overdistension of left lung.

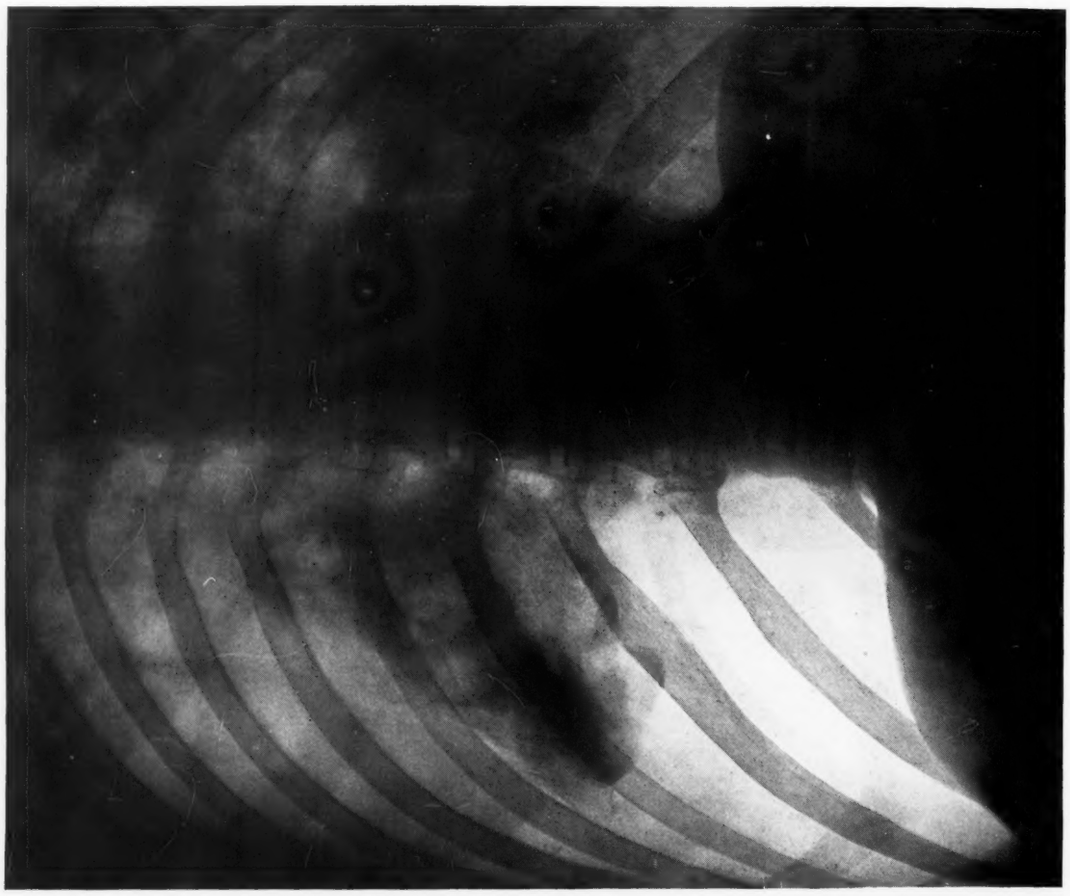


Fig. 8.—Pneumothorax for comparison.

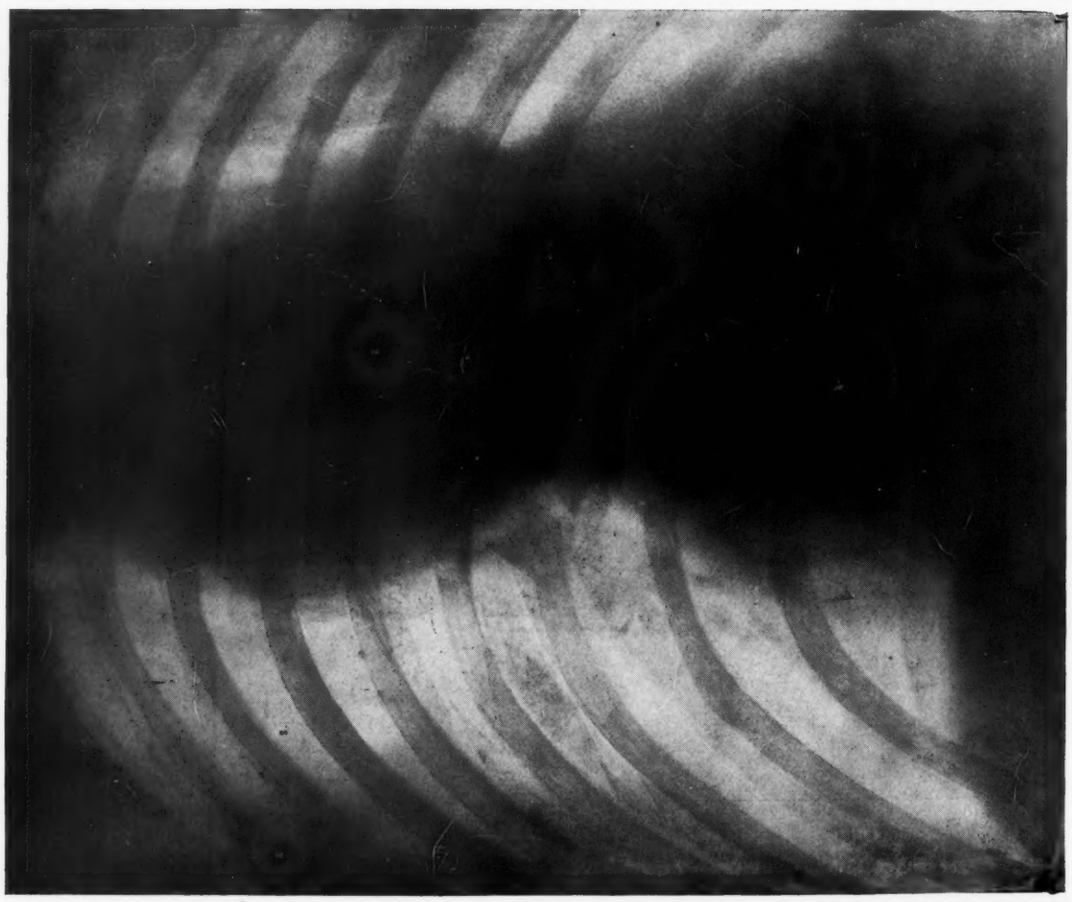


Fig. 7.—Overdistended left lung.

DR. NEWTON PITT ON THE RESULTS OF BRONCHIAL OBSTRUCTION.

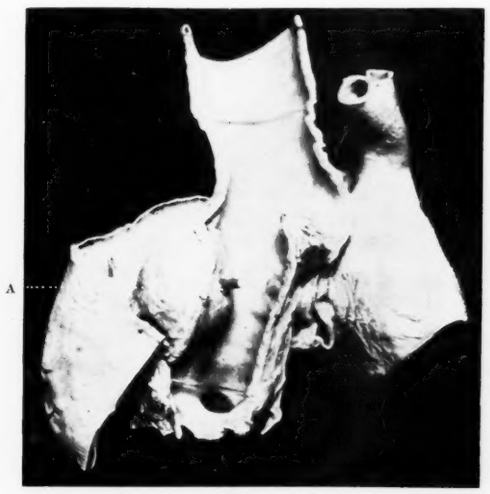


Fig. 1.

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 6.

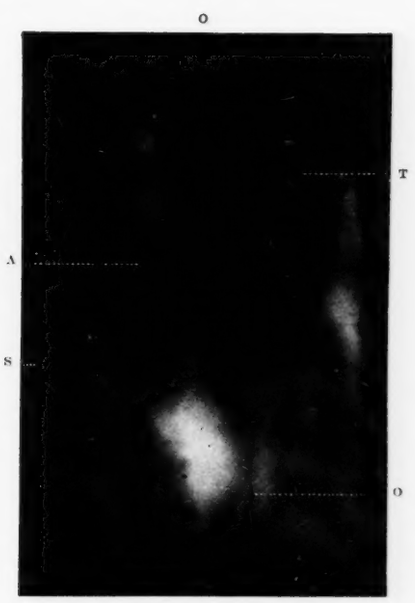


Fig. 9.

For description of figures see pp. 1848 and 1849.

Fig. 10.

Fig. 12.

Fig. 11.

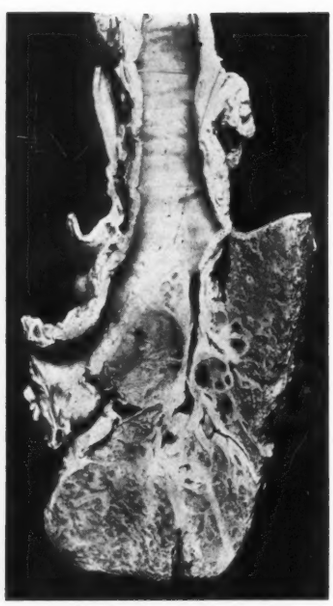


Fig. 13.

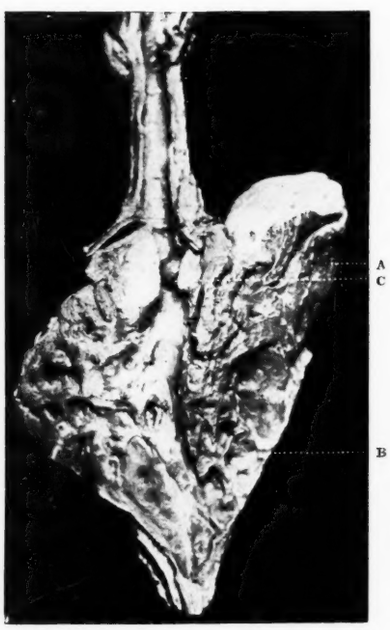


Fig. 14.

For description of figures see pp. 1848 and 1849.

bulged more than on the right; there were diminished tactile vocal fremitus and voice sounds. The chest circumference was 36 in. and the expansion ¾ in. The heart sounds were indistinct, but were best heard behind the sternum and to the right. Diagnosis: Growth or pneumothorax. The temperature oscillated between 102° F. and normal while the patient was in the hospital. On April 26th, 1902, the chest was *smaller*, being only 34 in., and there was a slightly impaired note over the precordium. Fatal haemoptysis occurred.

Post mortem a saccular aneurysm was found opening into and compressing the left bronchus. There was a septic pneumonia of the left lower lobe, with fibrosis and bronchiectasis.

CASE V.—*Aneurysm of the Descending Aorta Opening into the Left Bronchus. ? Pneumothorax or Aneurysm.*

The patient, a man aged 38 years, had dyspnoea and pain with impaired movement and absence of breath sounds on the left side; there was a hyper-resonant note and the heart was displaced to the right. On September 20th, 1897, there was some dullness at the left base. Fatal haemoptysis occurred while the physician was preparing to explore. ? Pneumothorax or aneurysm.

Post mortem there was an aneurysm at the commencement of the descending aorta, which had opened into the left bronchus near the point of bifurcation. The lungs were mottled with blood that had been sucked in; the edges were emphysematous. The lower lobe was solid, mottled grey-green, with a quantity of odourless pus in the tubes.

CASE VI.—*Aneurysm Compressing the Left Bronchus: Left Lung Over-distended, the Signs suggesting Pneumothorax.*

The patient in this case had a well-formed but emphysematous chest, the left side being *more bulky and larger* than the right and not moving so well; in fact, scarcely at all. No apex beat could be felt; there was a slight pulsation in the third right space 1½ in. from the edge of the sternum. There was a *hyper-resonant note* in the left chest obliterating the cardiac and the splenic dullness. Breath sounds were absent on the left side and very faint at the apex; there were no tactile vocal fremitus, no voice sounds, and no bruit d'airain. The circumference of the left chest was 18 in.; at the level of the right nipple, 17½ in.; at the level of the left, 17¾ in. There was no movement on the left. Diagnosis: Pneumothorax due probably to the rupture of a phthisical cavity. The temperature was remittent. Later, the note at the left base was slightly impaired.

The following is a remarkable instance in which the patient survived twenty months after the first severe haemorrhage from the erosion of the aneurysm into the bronchus, the opening being probably a valvular one, which he was able to close by retracting his head and thus diminishing the antero-posterior diameter of his chest.

CASE VII.—*Aneurysm of the Aorta, one compressing the Left Bronchus, and another the Trachea: Recurrent Haemoptysis for Twenty Months before Death.*

The patient, a man aged 50, under the care of Dr. Parry Jones of Derby, had four years ago dyspnoea on exertion, when an aneurysm was suspected; twenty months before death haemoptysis (1 pint) occurred; the blood came more rapidly when he leaned forwards, and was checked when he drew back his head. He also noticed that turning his head to the right reduced the volume of his right pulse. Gradually a slight pulsation with a diastolic jog developed beneath the left clavicle. There were diminution of breath and voice sounds on the left side, but no dullness. There were four further attacks of haemoptysis amounting to several ounces during the next year, but by reducing his fluid to 13 oz. and keeping quiet he kept them in abeyance.

Three dilatations were found in the ascending, transverse, and descending portions of the arch. The opening into the air tube was closed up. There was no great amount of bronchiectasis. It is remarkable he should have survived the first rupture for twenty months.

CASE VIII.—*Saccular Aneurysm of the Descending Aorta which Compressed the Left Bronchus and the Oesophagus.*

The patient, a man aged 49, under the care of Dr. Morgan of Seaford, had had pain for a year in the left chest and cough for three months. Recently there had been expectoration in the morning streaked with blood. He had dysphagia, liquid food frequently coming back again into his mouth after some little time if he swallowed. Dyspnoea ensued on exertion; there was defective movement on the left side, with distension of the veins on that side of the chest. There was resonance with deficient breath sounds over the left side, and a very marked delay (almost one second) in the onset of inspiration, which was quite noticeable when a double stethoscope was used. There were deficient voice sounds and the tactile vocal fremitus note was very slightly impaired, if at all. In the skiagram (Fig. 9) a large saccular aneurysm can be seen near the origin of the descending aorta, pressing on the left bronchus and delaying the passage of some milk and bismuth he had just taken. The oesophagus can be seen distended above and the bismuth trickling past the obstruction. When he contracted the oesophagus some of the contents were returned into his mouth.

DESCRIPTION OF SPECIAL PLATES.

Fig. 8.—A skiagram taken from the back of a case of pneumothorax, due to rupture of an early phthisical cavity, for comparison. The lung, contracted up at its root, is visible above the very clear area occupied by air; the outline of the diaphragm is more distinct than in Fig. 7; the heart is more displaced. The low flat condition of the left diaphragm, which is displaced down, is obvious.

Fig. 9.—A skiagram of an oblique view, showing an oesophagus, O, with its upper part distended with bismuth and milk. The spine, S, lies to the left, and the shadow of a saccular aneurysm, A, extending up to it, can be seen compressing the oesophagus; below this point a linear trickle of bismuth alone passes; the shadow extends higher than the point of compression; T is the dilated thoracic aorta.

Fig. 10.—The left lung, containing a cavity 4 in. across. In removal the anterior wall was torn and the walls when fresh were flocculent, but have been made smooth, unfortunately, in preparing the specimen. A probe, A, can be seen projecting through the remains of the bronchus; the pulmonary artery was also involved. An epitheliomatous growth invaded the root and slowly produced this gangrenous cavity, which, owing to the absence of breath sounds, gave no signs during life.

Fig. 11.—A section of a right lung which is fibroid, with bronchiectasis and gangrene, due to infiltration of the root by a sarcoma which compressed and almost obliterated the pulmonary artery and the bronchus; a probe, A, indicates the lumen of the bronchus. The lower lobe is greatly reduced in size and excavated by a gangrenous cavity.

Fig. 12.—A trachea and bronchi laid open from behind, showing the opening, A, through which a suppurating gland, B, had discharged into the right bronchus.

Fig. 13.—A trachea, with part of the right lung. The trachea and bronchi are scarred with syphilitic ulceration, the right bronchus is markedly narrowed, the lung is dense and fibroid, but there is no bronchiectasis.

Fig. 14.—A trachea and right lung, showing a pea, C, tightly wedged in the lower branch of the right bronchus. The upper lobe, A, is healthy, but the lower, B, is riddled with smooth-walled intercommunicating cavities. There is marked bronchiectasis, with fibroid replacement of the lung tissue in the lower lobe.

The features especially associated with the pressure of an aneurysm on a bronchus may be summed up as follows: 1. The left bronchus is involved six times as often as the right. 2 The right is very rarely eroded. 3. Resonance with silence. There are deficient or absent breath sounds over the left lung with a resonant or hyper-resonant lung. This does not necessarily indicate more than a partial occlusion of the bronchus, and occasionally in an early stage the left lung may be over-distended and be too transparent to *x* rays. The condition has, then, to be diagnosed from pneumothorax. 4. With *x* rays dilatation of the aortic arch can generally be detected, as the disease of the wall is generally multiple and diffuse. The local aneurysm often is best shown in a view in the half turned position with the patient sitting up. The deficient and delayed movement of the lung, the alteration in its density, and the abnormal position and movement of the diaphragm are usually obvious. Occasionally no local aneurysm nor yielding of the aorta can be detected. 5. Later, the development of an impaired note rather than complete dullness, with gradual development of bronchiectasis. It is remarkable how the amount of change which develops is always under-estimated owing to the breath sounds being absent or feeble. 6. Absence of pleuritic effusion. 7. Retardation of the onset of inspiration on the affected side. 8. In nearly half the cases more or less haemoptysis. Pain with dyspnoea on exertion are very constant symptoms.

As soon as the mucous membrane ulcerates the liability of the contents of the bronchi to become freshly infected is greatly increased, as the spot is very apt to become a nidus for organisms itself. Hence necrotic changes in the lung occur more often when the tube is ulcerated than when it is only compressed, just as primary growths in the bronchus are especially associated with gangrene.

MALIGNANT DISEASE (55 CASES).

The growth may originate (1) in the bronchus, (2) in the glands at the root of the lung, (3) it may be a secondary

deposit in the glands at the root of the lung and grow into it along the bronchus, and (4) as an epithelioma of the oesophagus ultimately invading the bronchus.

1. Primary growth in a bronchus is rare (8); in 4 cases it started in the right and in an equal number in the left. The growth is generally a columnar-celled carcinoma—at least four-fifths of cases of primary cancer of the lung start in the bronchial mucous membrane. Most of the cases came under observation for pleuritic effusion, which not infrequently required tapping more than once. In half the cases gangrene of the lung developed. In some a fragment of growth was expectorated, and thereby its malignant nature determined. There are generally pain and pressure signs.

2. Growth in the glands (26 cases) half affecting each bronchus. Two were described as lymphadenoma, but as they eroded the bronchus it is more probable that they also were sarcomatous.

3. Secondary deposits in the glands at the root of the lung (6 cases): the growth compressed the bronchus and invaded the lung.

4. Epithelioma of the oesophagus (16 cases). The two bronchi are invaded with equal frequency. In four they were only compressed; in the others the growth had fungated in. With epithelioma the pulmonary condition rapidly proves fatal, with a septic pneumonia, abscess formation, or gangrene. Bronchiectasis and fibrosis have not time to develop. The rapidly fatal changes are due to the infection with food from the communication with the oesophagus. The food is doubtless often squeezed in by the contraction of the oesophagus owing to the obstruction of its tube beyond by growth. In one case a deposit in a gland led to compression of the lower branch of the left bronchus with the development of bronchiectasis beyond. A troublesome paroxysmal cough, pyrexia, and pain are the indications of the onset of trouble in the lung, to which foul expectoration is soon added.

The special features of malignant disease are the frequency with which pleuritic effusion and also gangrene develop (more than half). The effusion is an early sign, and both this and the collapse of the lung, as well as the growth itself, all give dullness which is often quite marked. It has been pointed out by writers that the physical signs given by the changes in the lung and the pleura are obvious at an early stage and tend to obscure the evidence of the growth itself. In many the pulmonary artery is also compressed and may be occluded, and this is much more frequently so than by an aneurysm; hence the rapid development of extensive patches of gangrene which may lead to the development of large cavities, often without fibroid thickening of the wall. In a small proportion fibroid changes in the lung are well marked; in others there has not been time for them to take place. Bronchiectasis is by no means always present, but only in one third.

The massive infiltration of the root of the lung occludes not infrequently the lymphatics and blood vessels as well as the bronchi; hence oedema of the pulmonary tissue tends to develop and the bronchi to become more rapidly overfull of secretion. Stridor is not infrequently present, especially on exertion, but is most marked when the growth has also compressed the trachea.

CASE IX.—*Squamous Epithelioma of the Root of the Lung with Destructive Disease of the Lung beyond.* (Fig. 10.)

The patient was a man, aged 65 years, who for twenty months expectorated material of the colour of strawberries and cream, at one time amounting to a pint a day. The only physical signs were deficient breath sounds over the left base.

Post mortem the left lower lobe of the lung was excavated out into a cavity 4½ in. across, with flocculent necrotic walls, there were numerous dilated bronchi in the rest of the lobe with fibrosis. The bronchus and pulmonary artery were compressed, being embedded in the mass of growth. The primary seat was not determined as the *post-mortem* examination was limited to the thorax.

This specimen is of interest as showing the early formation of a single large cavity from destructive changes from necrosis, and in this instance without any foul secondary putrefactive changes. It illustrates the fact that the physical signs of a large cavity over 4 in. across may be almost *nil* when there is stenosis of the bronchus, owing to the absence of any breath sounds. Contrast it with the extensive fibrosis and the usual absence of large cavities which result when the pressure is due to an aneurysm.

As another example showing how a mass of sarcoma growing into the root of the lung associated with occlusion of the pulmonary artery tends to form large cavities, in addition to a general fibrosis of the lung with moderate dilatation of the tubes, the following may be quoted:

CASE X.

The patient, a woman aged 38 years, died a few hours after admission. At the inspection the left lung was healthy. A section has been made of the right lung, with the mass of growth at its root. A rod has been passed through the much-constricted bronchus. The pulmonary artery except for a small branch was occluded. Almost the whole of the lower lobe was excavated out into a cavity. There were smaller cavities in the lower part of the upper and middle lobes with general dilatation of the tubes in a dense fibroid tissue. (Fig. 11.)

CASE XI.—*Primary Cancer of Bronchus: Expectoration of a Nodule of Growth: Duration of Symptoms three and a half Years: Fibrosis with Bronchiectasis.*

The patient, a man aged 40 years, first noticed some wheeziness in September, 1901, and during the year 1902 he became short of breath on exertion; he lost half a stone in weight; there was an ounce of muco-purulent secretion daily, and on exertion or deep breathing there was some stridor. The wheeze or musical whistle with expiration was loudest when he lay on his left side. He had no pain. In October there were deficient breath sounds with a slight squeak, and deficient voice and tactile vocal fremitus over the left side, with dullness in front at the apex. There was similar deficiency in breath sounds at the apex; the base was fairly normal; the right side was quite normal. With a skiagram there was a slight opacity at the left apex, but less than is often met with in growth, although the evidence pointed in that direction. There was no evidence of aneurysm. He was subject to attacks of pyrexia with an increase in the expectoration. He continued to lose weight, and towards the end of the year there was a pleuritic rub. He had a few slight rigors. In December the dyspnoea had increased considerably, and he was very frequently sick unless very careful with his diet. A rough, blowing systolic bruit developed to the left and above the heart; the resonance became more impaired above, and the breathing indeterminate, with an increase in the voice sounds. The impulse of the heart was pulled upwards and outwards. There was pulsation over the affected area at the left apex which apparently was transmitted from the heart and was not due to an aneurysm. The diaphragm was as high as the fifth rib in the axilla. During the year 1903 he was able to get about if he moved slowly. Expectoration was limited to half an ounce; it was slightly blood-stained, but never offensive. The amount of blood varied somewhat.

The patient continued fairly well until May, 1904, when he had an attack of pericarditis, which lasted for six weeks. In December, 1904, he coughed up a piece of tissue an inch long and three-eighths of an inch in diameter, which came away quite easily with only a little haemorrhage. On microscopical examination this was found to be a portion of glandular carcinoma composed of tortuous columns of columnar cells; there were also cells in alveoli which communicated with these columns. Another nodule was expectorated in the following March. On April 18th, 1905, I again saw him with Dr. Cockburn of Ealing. The patient had got worse during the last six months, frequently expectorating as much as an ounce or two of blood. The dyspnoea had increased. He was practically confined to his bed. For a long time he was unable to lie on his left side, and latterly only on his right side. There was pulsation as high as the third space above the nipple, to the left of the heart; there were a noisy, wheezy stridor and noisy expectoration. We came to the conclusion that a nodule of the growth had fungated through, probably into the trachea, and it was a question whether there was not originally a foreign body in the left bronchus, which was the starting point of his trouble. He died the next day.

On *post-mortem* examination the right lung was found over-distended, but otherwise normal; there was an adherent pericardium. There was a mass of growth at the root of the left lung, in which the bronchus and vessels were imbedded. No foreign body was found, the left lung was extremely contracted. The upper lobe was reduced to a mass about 2 in. across and 7 in. long, riddled with small bronchiectasic cavities, while the lower lobe was converted into a very dense fibroid mass no bigger than the lung of a child of 6, and was also riddled with cavities.

COMPRESSION BY INFLAMED GLANDS (12 CASES).

The cases were: Enlarged glands 7, suppurating and opening into bronchus 5. These cases occur mainly in infants in whom the glands are active, and the antero-posterior diameter of the thorax is so small that a mass of glands at the bifurcation of the trachea may lead to serious symptoms. but especially when they press on the trachea They less often compress the bronchi seriously, and this generally only occurs when there are enlarged glands on each side of the bronchus, which accounts for the comparatively few cases in which enlarged caseous glands give rise to pressure symptoms. The cases of pressure on the trachea are apt to be looked upo

due to laryngeal diphtheria, but the absence of movement of the larynx is of diagnostic importance. Their enlargement may be made out by dullness internal to one scapula, by the opacity shown by *x* rays, by the absence of breath sounds on one side, and by a venous hum over the sternum on retracting the head, although I have only been able to elicit this sign three or four times.

When a suppurating gland breaks into a bronchus the child has severe dyspnoea with violent paroxysms of cough, and may bring up some purulent secretion, while there is soon an active development in the lung beyond of fresh physical signs. When in a child there are evidences that a bronchus is compressed, it is far more likely to be due to an enlarged caseous gland than to a foreign body, unless there is a definite history of sudden onset of symptoms after swallowing something. Most of the cases due to caseous glands are complicated with phthisis; less than half of them are diagnosed, but *x* rays make it much easier to do so now than formerly.

In 3 cases abscesses opened into a bronchus: (1) empyema, right side; (2) suppurating bronchial glands secondary to suppurative pylephlebitis; and (3) abscess communicating with the oesophagus and gangrenous cavity in the lung.

CASE XII.—*Compression of Trachea and Right Bronchus by Enlarged Caseous Gland.*

A child, aged 2 years, was admitted to hospital in 1910 with dyspnoea and stridor, which was supposed to be due to laryngeal diphtheria. On examination it was found that there were deficient breath sounds over the right side, with impaired resonance. The larynx did not move with respiration, and compression of the root of the right lung by caseous glands was diagnosed. The child died a few hours later. A large caseous gland compressed the trachea in front, just above the bifurcation. Another large gland between the bronchi was softening; the right lung was collapsed and airless; the left lung was normal. (Fig. 12.)

DILATED LEFT AURICLE.

A cause of pressure sufficient sometimes to cause physical signs during life, but rarely to present much evidence *post mortem*, is a dilated left auricle due to mitral stenosis, to which attention was directed many years ago by Dr. Wilkinson King.

CASE XIII.—*Pressure on Left Bronchus by Dilated Left Auricle.*

In 1888 a woman, aged 50 years, was seen suffering from mitral stenosis with a greatly dilated left auricle. At the inspection there was also a softening *ante-mortem* clot in the appendix. The left base was airless and sank in water; it could be inflated less than the right one, which was also oedematous and engorged. Both were deficient in air. The dilated left auricle markedly compressed the left bronchus.

FIBROUS BRONCHIOLITIS DUE TO IRRITANT GASES.

Inhalation of irritant gases is a well-known cause of intense dyspnoea and bronchitis, not infrequently fatal, with a greatly over-distended lung, of which we have had examples from time to time. Fraenkel has shown that this condition may be due to an acute fibrous obliterating bronchiolitis, which may develop within a fortnight. He has recorded cases after inhalation of the fumes of chlorine, of cow hair and lime dust, and after calcium chloride dust. A man after inhaling chlorine had intense dyspnoea, which passed off but returned next day, when he was cyanosed, with an extremely distended lung and fine crepitations. The condition again cleared up, to return again after a week, when he died. Widespread fibrous peribronchial inflammation was found round the smaller bronchioles, with necrosis of the lining epithelium, producing constriction of the tubes with dilatation beyond. Schmorles has described a similar condition in the broncho-pneumonia of measles, with obliteration of the bronchioles. The ingravescent cyanosis with dyspnoea and a rapid and great increase in the size of the lung are the essential points, especially when there has been exposure to irritant gases.

STENOSIS OF THE BRONCHI FROM SYPHILIS.

Out of 7 cases, 2 were due to gummata pressing on a bronchus. The way in which the tubes dilate under violent inspiratory efforts with bronchial obstruction is well shown in a case (No. XIV) of a man, aged 64 years, where a gumma pressed on the upper division of the right bronchus. The upper and middle lobes were over-distended; the lower lobe was airless from compression with five pints of fluid. The illness was rapidly fatal. The second (No. XV) was a chronic case with a gumma compressing the superior cava and the right bronchus; the bronchi beyond were dilated up to their extremity, and their walls were thickened; the lung was solid. There was extensive pleuritic effusion into the left side secondary to the pressure on the cava.

There were 5 cases of cicatricial stenosis of the bronchus secondary to syphilitic ulceration, and the patients were all under the age of 40. In 2 the larynx was also involved, in 4 the trachea, and in 4 there was bronchiectasis. Stridor is generally present, but often is independent of the bronchial lesion. There are generally other signs of syphilis present, so that an accurate diagnosis can be made in the majority of cases.

CASE XVI.

The patient was a man, aged 38 years; he was admitted with extreme laryngeal stridor and fixed cords due to laryngeal paralysis requiring tracheotomy. *Post mortem* the left lower lobe was collapsed. There was syphilitic stenosis of the right bronchus, with scars on the trachea, fibroid right lung, with dense gummatous fibrous mass involving the root of the lung and the vagus. In spite of the vagus being involved, there was no destructive disease of the lung. Sir W. Gull at one time suggested that the destructive lung disease associated with aneurysm was due to implication of the vagus. (Fig. 13.)

FOREIGN BODIES.

The result of the introduction of a foreign body into a bronchus depends upon whether the bronchus is partially or completely occluded, on the vigour of respiration, and on whether the body is an organic one which will readily putrefy.

Our knowledge of the changes which result largely depend on the experiments of Lichtheim in 1878, who introduced laminaria tents into the bronchi of rabbits, and also in others removed portions of the third and fourth left ribs, ligatured the bronchus, and studied the results. He showed that when the plug completely occluded the bronchus the lung quickly collapsed and became airless. There was at once an intense dyspnoea which gradually quieted down. In many cases the animals died within twenty-four hours with pneumothorax of the opposite side from rupture of an enormously over-distended lung; in others the over-distension of the sound lung had stretched the capillaries and made them useless, equally producing a fatal result. Pneumothorax from this cause does not occur in human beings. The affected lung beyond the obstruction was of a dull brown-red colour, with the consistency of muscle. With early death the bronchi were empty, but became filled with a thick white mucoid secretion whenever the animal did not die too soon. When he ligatured the bronchus alone the same result was produced.

He found that when the animal was made to breathe oxygen absorption was much quicker, in some cases being under an hour; CO_2 absorption was less rapid, but much more so than when it breathed air. When the pulmonary artery was also ligatured absorption was much delayed, showing that the gases were absorbed by the blood circulating in the lung.

When the chest was merely opened and the lung exposed to the air atelectasis took place quickly, but did not if the pulmonary artery was ligatured. This opening of the chest vitiates many of his results, as it prevented any vigorous respiratory movements from taking place. This was well shown by the fact that when the bronchus was ligatured the opposite lung did not become over-distended to the extent it did when the bronchus was blocked by a foreign body. When the hilum of the lung, including the pulmonary artery, was ligatured there was generally no infarct, because there had been no suction of the blood owing to the absence of the opening up of the alveoli with inspiration. This affords the explanation of the absence of infarcts in cases of growth at the root of the lung and of aneurysm in which the pulmonary artery had been occluded by pressure. When the animal survived some weeks the lung was fibroid and converted into a sac of dilated tubes, presenting an appearance similar to that of a calculous pyelonephritic kidney.

Partial obstruction of the bronchi has not been thoroughly studied experimentally, and we have still much to learn;

the presence of expectoration in amount shows that this is the more usual condition which results from the presence of a foreign body in a bronchus, and I have little doubt that in some cases the lung at first becomes over-distended, and is not always airless and collapsed.

Schuller has shown that it is possible to introduce clean food into the bronchi of rabbits, and if it can disintegrate it will disappear with no change in the lung beyond that of catarrh; when it cannot, fibroid changes with bronchiectasis result. When dirt, however, was mixed with the food gangrene or septic pneumonia resulted.

There have been the following cases: (1) Head of barley grass in left bronchus 129 days; (2) pork in right bronchus possibly for six months; (3) wooden top of toy in left bronchus; (4) pea in left bronchus; (5) feather after tracheotomy in right bronchus, but not cause of death; (6) pipe stem in bronchus after fatal fall down ladder (not cause of death); (7) newspaper in trachea, introduced intentionally; and (8) sponges in trachea, introduced intentionally.

The following case presents many very remarkable features. The boy swallowed a head of barley grass during a paroxysm of coughing, and this passed into his left bronchus, where it remained 129 days. He developed within two days after the entrance of the body an acute pneumonia which became gangrenous, and he had an extremely prolonged dangerous illness. Acid-fast bacilli were found on one occasion in the sputum, and were assumed to be tubercle bacilli, but he made an excellent recovery as soon as he expectorated the piece of grass. He never reacted specifically to tuberculin. He has maintained perfect health for the five years since, and is now strong and well.

It is very rare for any one to make such an excellent recovery after such extensive mischief in the lung, and it is suggested that the acid-fast bacilli came from the grass, as these grasses are said to contain them.

CASE XVII.—*Ear of Barley Grass in the Left Bronchus for 129 Days: Gangrene of the Lung: Complete Recovery.*

A boy aged 12 years, while recovering from an attack of whooping-cough, was playing with a head of grass in his mouth, when he was seized with an attack of coughing and the piece of grass disappeared. He tried in vain to make himself sick. On the next day the temperature was 102.8°, and on July 25th—the following day—Dr. J. E. G. Calverley of Folkestone, under whose care he was, found that the temperature was 105.2°, with a pulse of 100. There was pain in the epigastrium. The entry of air at the left apex in front was deficient. On the 28th there was diminished entry over the same area, with diminished movement but a *hyper-resonant* note. There was tracheal wheezing, conducted over the whole chest as rhonchi. The temperature, respiration, and pulse remained high, and on the 30th the boy had consolidation at the left apex down to the third rib, with bronchial breathing and pectoriloquy. The larynx was found to be normal. On August 1st there was profuse epistaxis, with a tympanitic note at the left apex in front, and down to the level of the fourth rib in the axilla. The entry of air remained deficient at the left apex. He became anaemic from recurrent epistaxis. He then passed under the care of Dr. R. B. Wrightson at Aldeburgh. The temperature gradually dropped to 99°, and the boy was able to get about. The sputum at first was frothy, but later became abundant and mucopurulent, and was said to contain tubercle bacilli. In the middle of September his temperature ran up to 104° and he developed signs of consolidation at the left base. In the upper lobe there was dullness at the apex with signs of a cavity in front in the second and third spaces. There was a marked oscillation of the temperature with very foul breath indicative of gangrene. He was extremely ill for a long time with a very feeble pulse. He took creosote regularly and was well nursed in the open air, so that gradually he recovered his health. No tubercle bacilli could be again detected, and at the end of October he had gained a stone in weight. The sputum was reduced to ½ oz. in amount daily, and was no longer foul. On November 30th, 129 days after swallowing the grass, he had a fit of coughing, and brought up a head of barley grass 1¼ in. long from the left bronchus. The long awns had broken off from decomposition, and so it was able to pass out again backwards, which had been quite impossible so long as they were intact. There was a gradual retrocession of the signs, but there remained at the apex a deficient resonance, with indeterminate breathing and increased voice sounds; a few moist sounds persisted at the lower part of the lung for some time. In December the opsonic index for tubercle was found to be 0.6 and 0.65 on two occasions. An attempt was made to see whether any acid-fast bacilli could be cultivated from the piece of grass, but none could be found, although many other organisms were present.

Fig. 14 (Case XVIII) shows a pea wedged in the lower bronchus on the right side. The upper part of the lung is healthy, but the rest of the lung is densely fibroid and riddled with intercommunicating cavities. The patient was a boy, aged 3 years, with cough and vomiting. He died with empyema and cerebral abscesses a month later.

CASE XIX.—*Piece of Pork in Right Bronchus: Bronchiectasis: Septic Pneumonia.*

In 1888 a man, aged 60 years, was admitted. For six months there had been wasting, and for two weeks foul breath. For two days there had been deficient movement of the lung on the right side, pleural rub in the axilla and base, deficient air entry, râles, with amphoric breathing over the middle lobe.

At the inspection the right lung was fibroid with general bronchiectasis of the main bronchi. Low down was found a piece of pork ½ × ⅜ in. There were cavities in the lower lobe. There was acute pneumonia at the lower part of the upper lobe with oedema of the left lung. Had the pork been there for six months?

CASE XX.—*Piece of Wood in Left Bronchus: Bronchiectasis of Both Lungs.*

In 1905 a female child, aged 16 months, was seen. She was well until five weeks before admittance, when she had a cough and dyspnoea. The right lung was resonant on the anterior part in front, but impaired behind. There were crackling râles, bronchial breathing, and pectoriloquy behind.

At the inspection there was advanced fibrosis with bronchiectasis of the right lower, the right middle, and the left lower portions, with a mass of dilated tubes in the midst of the parts of the lung which were fibroid. The *two left upper lobes* were distended; there was recent bronchopneumonia. In the left bronchus, just beyond the point of bifurcation, there was a smooth piece of wood broken off a toy. It was doubted at the necropsy whether the piece of wood had caused the bronchiectasis, because it was found in the left bronchus and the bronchiectasis was also on the right side, but probably at an earlier stage it was in the right bronchus, and had produced changes on that side and been displaced to the left later.

Although many cases of foreign bodies in the bronchi have been recorded, in but very few has an accurate note been made of the physical signs in the lung in an early stage of the illness. The body generally passes into the right bronchus because it is more vertical and is also slightly larger. The changes are unilateral, serious, and progressive.

The following are the most important evidences suggestive of a foreign body in a bronchus, and in any such case a bronchoscope should be passed in order that the condition of the tubes may be determined, and a positive opinion formed: (1) A most important factor in diagnosis, and one which until we had *x* rays was absolutely essential, is the history of swallowing something immediately before the onset of an acute attack of severe dyspnoea and cough. (2) Not infrequently a whistling or wheezing sound which the patient can localize to one side, varying in quality if the object is not fixed in the bronchus. (3) Great distress, with not infrequently a constricting pain behind the sternum, made worse by movement. (4) Dyspnoea, with varying exacerbations, often intense and made worse by cough, but it may be elicited only by exertion. After a time there may be no distress. (5) Absent or, rarely, very noisy breath sounds, with some slight diminution of voice and tactile vocal fremitus limited to one side of the chest. (6) At first resonance on the affected side, soon consolidation with dullness, and, after a time, the signs of cavities, and the simulation of phthisis; query occasionally hyper-resonance. The physical signs sometimes vary from time to time. (7) With *x* rays, the defective movement of the diaphragm and of the thorax, the alteration in the density of the lung, and not infrequently the outline of the foreign body itself, may be clearly made out. (8) Delay in the commencement of inspiration as compared with that on the other side. (9) Defective movement with consequent diminution in the size of the affected side. (10) Violent paroxysmal persistent cough, which is apparently most marked when the object is at the bifurcation, as the sensibility of the mucous membrane is greatest here, as can be noticed when passing a bronchoscope. (11) Early pyrexia, which later becomes hectic, associated with chills. (12) After a short time an expectoration more or less profuse, purulent, often bloody, and later often fetid. (13) In some there are nausea and vomiting, which may be very troublesome. (14) Pneumonia often develops in forty-eight hours; this may be septic and may be followed by gangrene.

[We are indebted to Messrs. Bale, Sons and Danielsson for the loan of the block of the portrait of Dr. Bradshaw which appears on p. 1845.]

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RENOVATION OF TERMINAL PHALANX OF THUMB.

IN April, 1908, I saw a boy, aged 10, who had suffered for some weeks from a whitlow of the left thumb. The nail was loosened from its bed, and a sinus led down to necrosed bone: pus was discharging from the sinus.

Fig. 1.—Skiagram taken by Mr. J. Taylor. The growth of the new bone from the epiphysis is well shown.

On April 3rd, 1908, the patient was given an anaesthetic, and I cut off the diseased skin, etc., removing the entire nail and the terminal phalanx, which was quite loose and completely necrosed. In fact I performed an amputation at the interphalangeal joint; and I told the parents there was no chance of any "end" ever growing to his thumb. The little operation wound healed quite well, and I did not see the boy again until January, 1909, when, to my great astonishment he had quite a well-shaped nail and a perceptible phalanx with good movement at the joint! I had a skiagram taken (Fig. 1) which shows very clearly the growth of the new bone. Obviously this new phalanx has developed from the epiphysis which was left behind.

Fig 2.—The necrosed phalanx as removed.

Fig. 3.—Photograph of hands two and a half years after operation.

Fig. 2 is a photograph of the necrosed phalanx removed in 1908. Fig. 3 is a photograph I took of my young friend's hands last September.

I referred to this case in my inaugural address to the Bath and Bristol Branch in 1909 as one of the best examples I ever came across of the *vis medicatrix Naturae* and I think this pictorial record may interest the readers of the JOURNAL.

Clifton. G. MUNRO SMITH.

HYDATIDIFORM MOLE DURING THE FIFTY-FIRST YEAR.

THE following case is of more than usual interest, owing to the fact that conception took place towards the end of the fifty-first year.

Mrs. A., aged 50 years and 9 months, consulted me in September on account of persistent sickness and sanguineous discharge. Menstruation had been quite regular till the early part of this year, when it became irregular with long intervals, suggesting the onset of the menopause. The last menstrual period occurred at the beginning of August, but the uterus was easily felt above the pubes by external examination.

The symptoms of sickness and discharge gradually ceased with complete rest in bed, but the uterus enlarged rapidly, and finally emptied itself, with considerable "pains," on November 14th. The mole, which filled a 3-lb. jam-pot, was typically hydatidiform, the cystic chorionic villi, with myxomatous degeneration of their stroma and proliferation of the trophoblast layers, being clearly shown. All discharges ceased in a week, and the patient is so far making an uneventful recovery.

There seems to be no reason to doubt but that this mole was the result of a recent conception, and the case seems to support the theory that such moles occur as a result of pregnancy in advanced life.

Newton Ferrers, Plymouth. A. E. GLADSTONE.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

HAMIRPUR DISTRICT HOSPITAL.

CASE OF PENETRATING WOUND OF THE ABDOMINAL WALL WITH PROTRUSION OF THE SMALL INTESTINE.

(By S. K. CHANDHURI, M.B., B.A., Assistant Surgeon.)

T., an orphan male child, aged 8 years, was admitted to the District Hospital, Hamirpur, U.P., with the report that the boy had been gored by an enraged bull; he had been carried in a bullock cart from a distant village. The accident was said to have occurred about four hours previously. A dirty cloth was wrapped round his abdomen, on uncovering which a coil of the small intestine a little above a foot in length was seen protruding through a more or less transverse wound across the middle line of the abdomen about an inch above the navel. On inspection two superficial puncture marks were discovered in the visceral peritoneum of the protruded gut, the rest of the intestinal wall being intact. The whole of the protruded organ had a deeply injected appearance. His temperature on admission was 99°.

Under chloroform, when the toilet of the protruded organ with sterilized salt solution was nearly finished, his pulse became feeble and the rest of the operation was hurried through. The gut was pushed back by enlarging the abdominal wound. The severed aponeurotic fibres were drawn together by buried sutures, and last of all superficial stitches uniting the skin were applied.

The patient was kept under the influence of opium, and a little milk was given for the first time since the operation on the third day; next day flatus and faeces were passed. He made an uninterrupted recovery, the temperature never rising beyond 101.4°—recorded on the second day—and no peritoneal complication supervened.

On the eighth day, on removing the first dressing, suppuration was noticed to have occurred superficially; it is strange pus did not travel beyond the muscular wall and did not affect the site of the buried stitches. No drainage for the wound had been provided and yet nothing untoward happened. Another departure from the common practice was that the peritoneal rent had not been united by stitches. Five months have elapsed since the accident took place, and the boy has no complaint whatever.

THE first Congress of French Medical Journalists will be held in Paris on Thursday, March 23rd, 1911. Among the questions to be discussed are the right of reproduction of medical papers; the relations of the medical press with congresses and other manifestations concerning the art and practice of medicine; the organization of a fund for the immediate relief of necessitous cases; the usurpation of the title of doctor.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, December 5th, 1910.

CHARTERS J. SYMONDS, M.S., F.R.C.S., President, in the Chair.

Dilatation of the Heart and Heart Strain.

DR. W. COLLIER of Oxford, in continuing the discussion on this subject, said that in the treatment of the heart strain of athletes it was most important to reassure the patient, and make him realize that he was not in the slang phrase a "heart crock," but had only to avoid severe athletic competitions such as rowing in races, and take care to live a "physiological life," going to bed in reasonable time, and not smoking cigarettes continually.

Dr. SAMUEL WEST said that a muscle not exercised wasted, and therefore it must be exercised, but how much the muscle could do was a matter of observation, therefore in the case of heart muscle supervised exercises were better than rest.

Dr. WALTER BROADBENT said that a method of examining a case of supposed heart strain was by taking a tracing of the jugular pulsation in the neck with Mackenzie's polygraph. In merely functional cases the jugular tracing was normal, but in genuine cases there might be either a very large auricular wave, or a ventricular wave higher than the auricular. When the auricular wave had been large, presumably showing hypertrophy of the auricle, relief of symptoms had quickly followed the giving up of violent exercise for a week or two and the taking of a tonic. When the ventricular wave had been higher than the auricular, though rest, graduated exercise, and treatment had changed the character of the jugular curve and made the ventricular wave much smaller than the auricular, there had been great liability to relapse on any unusual exertion.

Dr. ALEXANDER MORISON thought there was some danger in being too optimistic. Hearts did dilate or become inefficient without gross organic disease, and it was quite possible to minimize unduly the importance of such conditions.

Sir JOHN BROADBENT said that the importance of percussion of the area of cardiac dullness as a means of estimating strain or dilatation of the right ventricle was greatly overrated. An athletic individual would naturally have a larger heart than an ill-developed bookworm, the increase in size being the physiological response to the increased demand. It was not the size of the heart as estimated by percussion that mattered, but its functional capacity that was all-important.

Dr. LEONARD GUTHRIE agreed with Dr. Goodhart that the physical signs supposed to indicate heart strain and dilatation were unreliable as evidence of cardiac dilatation. He thought, however, that they might be regarded as evidence of past strain and dilatation, and of potential dilatation, should the patient indulge in over-exercise.

Dr. CHARLES W. CHAPMAN said that when the patient was young and vigorous a short period of rest would in most cases be all that was necessary. In patients past middle life, although they might up to the time of the strain hold a clean bill of health, the length of rest necessary would depend on the state of the vessels and the more important viscera.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Friday, November 18th, 1910.

Mr. H. R. WOODS, P.R.C.S.I., in the Chair.

Diagnosis of Urinary Calculi.

MR. MAURICE HAYES in a paper on *x* rays in the diagnosis of renal calculus, laid special stress on the necessity for thorough evacuation of the intestines in order to obtain a satisfactory radiogram. Taken in conjunction with the ordinary methods of diagnosis, *x* rays furnished more valuable information than could be obtained in any other way. Mr. HAUGHTON said he had never known a Roentgen picture to make a mistake with regard to a stone in the kidney. With regard to controlling the respiratory movement of the kidney, the strap mentioned by Mr. Hayes was an admirable addition to the work, but the best appliance was the diaphragm compressor of Albers-Schönberg. Sir JOHN LENTAIGNE said that Mr. Hayes, unlike many demonstrators, had hardly done himself justice in explaining an error in diagnosis. An abscess cavity, shut off, and containing semifluid, gritty matter, could not be called anything else but a stone in the course of formation, and should give a shadow if any stony material gave one. That was the condition in the case in which he had operated, and there was no mistake. Mr. HAYES, in reply, said he was prompted to write the paper by the difficulty created by radiographers being sent hurriedly to examine cases. Surgeons ought to realize that thorough examination was necessary. Mr. GUNN, having read a paper on the same general subject, Dr. HARVEY said shadows in the kidney region not caused by stone could generally be differentiated without much trouble. In the great majority of cases a negative diagnosis was justified by the absence of a shadow in a sufficiently good negative. Such a negative should show (1) the last ribs, (2) the tips of the transverse processes, (3) the line of the ilio-psoas muscle, and (4) the outline of the lower pole of the kidney. Mr. HAUGHTON said that in cases of doubt a stereoscopic picture should be taken. It was astonishing how two rather indifferent negatives would yield an excellent stereoscopic result. The question of including the opposite kidney was most important. He had come across patients in which the pain was referred to one side, and there were two large stones in the opposite kidney.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, November 30th, 1910.

Dr. BYROM BRAMWELL, President, in the Chair.

Blood Pressure.

DR. G. A. GIBSON, in opening a discussion on blood pressure, said that, of the two chief factors in maintaining arterial pressure—energy of the heart and the resistance in the arterioles—the latter was much the more important. Increase or decrease in the quantity of blood had little effect. Great importance had been attached to the compression resistance of large arteries, but tests immediately after death showed a maximum resistance of 35 mm. mercury. Local resistance, therefore, must be less important than peripheral. In a healthy youth an average systolic reading was 120 to 124, an average diastolic reading 80 to 100. These were lower in women and children, and higher in the aged. Very high readings were obtained in interstitial nephritis, and extremely low ones in Addison's disease. In lead poisoning the pressure was high until recovery, and then became low. In gout it was high immediately before and during the paroxysms, and low after them. Of valvular heart diseases, aortic incompetence alone disturbed the pressure much, and an interesting point here was the discrepancy between the leg and arm readings, which was probably to be explained as a compensatory effort to maintain an efficient cerebral circulation. In pneumonia a persistently low blood pressure was of bad prognosis. He had tested the value of this omen by ten years' observations in this disease. In cerebral haemorrhage the pressure was high, but the brilliant experimental work of Cushing had shown this to be a deliberate compensation to maintain the brain in its vital supply of blood and contraindicated attempts to lower the blood pressure in this condition. The low reading in renal waxy disease was a valuable diagnostic from interstitial nephritis with its high pressure. Dr. W. RUSSELL drew attention to the condition of the vessel wall in increasing the compression resistance. This factor had been denied, and it had even been said by Janeway that a calcified artery had no effect upon compressibility. But such an opinion could not be entertained. For nine years he had extended his clinical examination from the radial to the brachial artery, and thickening and hardening of the latter vessel was very often an easily palpable clinical fact. At necropsies he had obtained many specimens where thickening and muscular hypertrophy were clearly demonstrable. Increases of pressure with symptoms of cardiac embarrassment were associated clinically with palpable hardening of the brachial artery.

Dr. HARRY RAINY said that where subcutaneous oedema was present over the vessel to be tested a quasi-rigidity was given and produced a serious fallacy. The vessel wall was bound to offer compression resistance, but experiment upon living vessels showed that this never exceeded 15 per cent. of the total pressure. Dr. DICKSON (Lochgelly) said that he had taken the blood pressure of 500 apparently healthy miners. In 469 this was within normal limits, and yet 456 revealed palpable thickening of the radial and brachial arteries up into the axilla. Dr. O. NICHOLSON said that there was no increase of blood pressure during normal pregnancy. There was a rise during the first and second stages of labour, and again a rise on the third day of the puerperium. A continued pressure of over 130 during the puerperium was a danger signal of eclampsia. Dr. T. SHENNAN said he had observed that where there was general calcareous degeneration in arteries the vascular lengths over the flexures of joints almost entirely escaped. This might have some effect upon the readings of clinical instruments applied just above the elbow. Dr. E. MATTHEW said he had found the iodides very useful in some cases of early arterio-sclerosis in middle aged men. Potassium iodide gr. x thrice daily was a sufficient dose, and, if it were going to be effective, it would be so in a few days. In advanced cases the iodides were of no value. Dr. CHURCH advocated the regular use of the sphygmomanometer in the consulting room. Its range of usefulness was wide. The PRESIDENT said that it was only reasonable that a rigid tube should be less compressible than a relaxed one. At the same time, he did not attribute the importance to brachial spasm that Dr. Russell did. With reference to Dr. Dickson's results, one possible explanation of his low readings obtained from thickened vessels had been lost sight of. Where a broad zone of compression was applied, it was only the compressibility of the weakest part of this arterial length that was indicated, and the rigidity of various parts of the tube might vary considerably. Dr. GIBSON replied.

ROYAL SOCIETY OF MEDICINE.

SECTION OF THERAPEUTICS AND PHARMACOLOGY.

Tuesday, November 15th, 1910.

Professor A. R. CUSHNY, F.R.S., President, in the Chair.

The Action of Sulphur.

PROFESSOR R. B. WILD (Manchester), in a paper on the action of sulphur and certain of its compounds as intestinal antiseptics, pointed out that in addition to its action as a mild purgative, sulphur had a definite antiseptic action in the intestine owing to its formation of H_2S in the presence of bacterial decomposition. To this action might probably be attributed the traditional efficacy of sulphur and sulphurous waters in chronic gout and rheumatism, and in certain skin eruptions. The superiority of sulphates as purgatives was in part due to their reduction to sulphides in the bowel. The preponderance of plants containing sulphurous volatile oils among those used dietetically was remarkable. Long-continued administration of sulphur caused depression Sulphur was tasteless, insoluble in the stomach, without action on digestive enzymes, formed in the intestine antiseptic substances which penetrated to all parts of the bowel, had little tonicity, but possessed valuable laxative properties, and was cheap.

The Digitalis Group.

Dr. H. HUME TURNBULL gave a further account of the experimental administration of drugs of the digitalis group under Dr. James Mackenzie and Professor Cushny, which the latter had dealt with in his presidential address. Strophanthus was only about one half as active on man as digitalis, *B.P.* tinctures being used in both cases. Cases of rheumatic disease were most distinctly benefited, and especially those with auricular fibrillation. For the latter class of case the pushing of digitalis was the essential treatment. The drug was given in full doses until "physiological" effect (nausea, vomiting, headache, giddiness, etc.) appeared. It was then stopped, and recommenced in smaller doses, till the minimum amount which would control the heart was found. An intelligent patient could then be left to dose himself by his own sensations. In cases with partial heart-block great care was necessary.

SECTION OF SURGERY.

Tuesday, November 29th, 1910.

Mr. RICKMAN J. GODLEE, President, in the Chair.

Treatment of Fractures.

THE debate on the treatment of fractures in the neighbourhood of joints was resumed. Mr. H. J. PATERSON, Mr. DOUGLAS DREW, Mr. C. H. FAGGE, Mr. CLAYTON GREENE, Mr. SYMONDS, Mr. WALTON, and Mr. JOHNSON having spoken, Mr. GODLEE, after thanking Mr. Robert Jones for his admirable opening paper, said that the point upon which greatest stress seemed to be laid throughout the discussion was the danger attending early and vigorous passive motion. He remembered the days before such an idea as early movement of a fractured limb was promulgated. Now the pendulum had swung back, and once again the virtues of rest were sung. He believed that passive movement did harm in many cases, but he was in agreement with Mr. Jones that the substitution of active movements was desirable as soon as consistent with safety. He reminded the meeting that the case of fracture of the spine of the tibia mentioned early in the debate was not unique, for Erichsen had described a case from the University College Hospital many years ago. He wished to know what Mr. Jones thought of the cases of coxa vara resulting from trivial injury. Were they really fractures or not? He would like to ask him, too, what was the pathogeny of the lesion of the tubercle of the tibia so common about the years from 13 to 16. Mr. ROBERT JONES said he was glad to find so large a measure of agreement between all surgeons who had taken part in the debate. The cases of coxa vara to which the President had referred were shown by *x* rays to be due to a gliding upwards of the diaphysis on the epiphysis, but the neck of the bone certainly had the upward and forward bend alluded to in many cases. He had not found it necessary to screw fractures of the neck of the femur in young adults since extreme abduction and extension gave good results. The lesion at the tubercle of the tibia was certainly due to partial separation of the epiphysis in some instances. He alluded to recent cases of Volkmann's contracture to prove that they had not ceased to occur as a result of the introduction of early passive movements. In his experience the condition was just as often produced by pressure from within as from without. He was not in agreement with the speaker who expressed the opinion that Bennett's fracture was an easy one to treat by manipulation. With the statement that Colles's fracture was one pre-eminently for operation he totally disagreed, believing that none gave better results if properly disimpacted and splinted.

SHEFFIELD MEDICO-CHIRURGICAL SOCETY.

Thursday, November 24th, 1910.

Dr. SAMSON MATHEWS, Vice-President, in the Chair.

DR. A. E. M. NAISH, in a paper on *The first month of infancy*, pointed out that it was common knowledge that infants were weaned unnecessarily, but, owing to a lack of an intimate knowledge of the causes which led to it, the custom was still prevalent. Depressed and fissured nipples or chronic mastitis were not necessarily a contraindication to breast feeding. In the infant crying, vomiting, and wasting were the usual reasons given for weaning. Any of these symptoms might be fallacious, and it was especially important in a wasting child to ascertain whether this wasting was due to a defect of the milk or not. In the latter case the wasting was usually aggravated. The influence of the nurse was often against the continuance of breast feeding, and many of the arguments she used were fallacious. In referring to cases of so-called congenital atelectasis, he brought forward examples where the infants were at first strong and healthy, and in whom the onset of the symptoms dated from the fifth or sixth week. Such cases seemed to have a familial incidence. The collapsed lung was probably not present from birth, and possibly the disease might be a disorder of the normal respiratory reflex. Mr. GRAHAM SIMPSON showed specimens and read notes of three cases of *Nephrectomy*, including one on a man aged 22, who complained of great frequency in micturition and pain in

the right loin. There was intermittent pyuria, but no tubercle bacilli were found in the urine. Skiagraphy showed a shadow just below an enlarged right kidney. Chromo-cystoscopy was difficult, as the bladder bled easily, but the right ureter was watched for two minutes, and no urine was seen to come out. The kidney was excised, as it felt like a bag of pus. It contained numerous tuberculous abscesses, but also a fair amount of kidney substance. The output of urea was very small for the first few days, then increased till about the eighth day; after that it rapidly fell, and the patient died of uraemia a fortnight after the operation. Dr. STANLEY RISELEY showed, among other cases, one of *Subacute glaucoma*, in which operation was rendered dangerous by a chronic conjunctival discharge.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

Friday, November 11th, 1910.

Dr. LOGAN TURNER in the Chair.

THE proceedings included the following exhibits and communications:—Dr. W. G. PORTER showed: (1) A patient two and a half years after *Operation on the right labyrinth*. Granulations had been removed from the region of the horizontal canal, but the remaining canals and the cochlea were not interfered with. The vertigo had disappeared, and the patient could follow his employment, but still complained of severe tinnitus. (2) He also reported the case of a patient with *Nystagmus of the right vocal cord* and soft palate. The movement of the cord consisted of a rapid adduction and a slower abduction, and the rate was about 150 a minute. It was thought that the phenomenon was due to bilateral cerebral disease, probably associated with arterio-sclerosis. The patient died suddenly, but no *post-mortem* examination was obtained. Dr. J. D. LITHGOW read notes of a case of double *Frontal sinus disease* with cerebral involvement. There was a deficiency of the cerebral wall of the right sinus, and through this a fungating mass of necrotic cerebral tissue presented. Operation resulted in recovery. Dr. J. S. FRASER reported a somewhat similar case which, however, ended fatally. In this patient the frontal sinus suppuration was complicated by extradural and intradural abscesses in the frontal region. Dr. SYME, in the discussion, remarked on the increasing frequency with which reports of intracranial complications of frontal sinus disease were being published, and pointed out that in reference to the question of operation on the sinus, this danger must be taken into account. Dr. TURNER stated that, besides these two cases, one other, making three within the year, had occurred in the Edinburgh Royal Infirmary; Gerber had collected 150 cases of intracranial disease following suppuration in one or other of the nasal accessory cavities. Dr. MALCOLM FARQUHARSON showed: (1) A patient presenting symptoms of cerebro-spinal rhinorrhoea. The condition followed a severe fall on the back of the head. There was a clear watery discharge from the right nostril presenting the characteristics and conforming to the tests of cerebro-spinal fluid. The patient suffered from severe headaches before the nasal discharge commenced. There was now complete double optic atrophy, and on the right side there was deafness of nerve type. The nasal passages were narrow, but otherwise appeared healthy. (2) A man with a large epitheliomatous growth of the pharynx, in whom treatment by *x* rays and radium had resulted in retardation and diminution of the growth, with relief of pain, succeeded by rapid extension. Dr. LOGAN TURNER showed: A case of *Laryngeal tuberculosis* in which an 85 per cent. solution of alcohol had been injected into the right superior laryngeal nerve for the relief of dysphagia. The patient had had two injections at an interval of three weeks, with relief of the pain, especially since the latter injection. Unfortunately the disease had extended to the left side, so that the relief was only partial.

MESSRS. DOWN BROS, LTD. (London) have been awarded the Grand Prix (highest award) for surgical instruments and aseptic hospital furniture at the Buenos Aires Exhibition, 1910, as well as the Grand Prix (highest award) at the Brussels Exhibition, 1910.

Reviews.

CHRISTMAS BOOKS.

FICTION.

WHEN, after many years, Hans Andersen is read once more, it is, perhaps, easier than when the stories themselves absorbed us to realize how great an artist he was. Messrs. Macmillan have published in a thin quarto *Three Tales of Hans Andersen*,[1] those selected being the Tin Soldier, Thumbelisa, and the Little Mermaid. They are good examples of his rich invention and delicate fancy, and the twenty-two graceful black and white illustrations by the late Mr. Linley Sambourne make the volume an ideal gift-book for a child who can appreciate the humour and pathos which both author and artist could command.

E. NESBIT is not only a very clever writer; she is also one of the most popular of the large crowd of modern authors who cater especially for the young, and the children who rejoiced over *The Treasure Seekers* and *The Would-be-Goods* will not be disappointed in her latest book. *The Magic City*[2] was built on the tables in a twentieth-century drawing-room by a lonely little boy, who chose this fantastic method of whiling away the hours when left alone in his brother-in-law's house whilst the latter was away on his honeymoon. The story is made up of Philip's wonderful experiences with the queer people who dwelt within the buildings he had erected out of books and bricks and pieces of bric-à-brac. Philip and his little companion Lucy go through all sorts of strange adventures during their sojourn in the city of Polistopolis, where they meet, not only their own toys, but also the characters out of different books and various interesting animals, including a most fascinating parrot, who more than once reminds one of our old friend the Phoenix. Altogether, *The Magic City* is a delightful book, written with all its author's accustomed insight and humour; and, being beautifully bound and printed, and profusely illustrated by H. R. Millar, it is sure to receive a warm welcome from any child who is fortunate enough to be presented with a copy this coming Christmas time.

In the preface to his new book, Mr. DE VERE STACPOOLE informs us that it was written "in a moment of youthful expansion." The result of that moment of expansion should be eminently satisfactory both to the author and to his readers, who are here presented with a really excellent sea story for boys. *The Cruise of the Kingfisher*[3] (which, by the way, is an English cable ship) is a tale of adventure upon the high seas, in which mysterious murders, fights with a giant decapod, and mutiny follow one another in quick succession. The derelict *Kingfisher* is finally salved through the exertions of two plucky boys, who manage to bring her safely home all the way from the Canary Islands, after they have been hunted for their lives by the mutineers, and narrowly escaped shipwreck in a big storm into the bargain. It will be gathered that the story is exciting. It goes with a swing from start to finish, whilst the variety of incident is so great as to be almost bewildering. There is not a dull moment throughout the book, however, and Teddy O'Brien is a very human hero, and quite boyish enough to be interesting, in spite of his almost supernatural cleverness. Mr. de Vere Stacpoole has scored a decided success, for *The Cruise of the Kingfisher* proves that he has not forgotten the tastes of the average boy, who, it may be safely predicted, will certainly greet this addition to his library with hearty approval. The numerous full-page illustrations by William Rainey, R.I. also deserve high praise.

[1] *Three Tales of Hans Andersen*. With 22 illustrations by Linley Sambourne. London: Macmillan and Co., Ltd. 1910. (Cr. 4to, pp. 87. 3s. 6d.)

[2] *The Magic City*. By E. Nesbit. With illustrations by H. R Millar. Published by Macmillan and Co., Ltd, St. Martin's Street, London. 1910. (Pp. 333. 6s.)

[3] *The Cruise of the Kingfisher*: a Tale of Deep Sea Adventure. By H. de Vere Stacpoole. Illustrated by William Rainey, R.I. Published by Wells Gardner, Darton and Co., Ltd., 3 and 4, Paternoster Buildings, E.C., and 44, Victoria Street, S.W. 1910. (Pp. 308. 2s. 6d.)

Miss MABEL QUILLER-COUCH'S pretty story, *The Mean-Wells*,[4] is an ideal book for children. It is only a very simple little tale of the everyday doings of a country doctor's family in a remote part of Cornwall, but it is told so charmingly, and Geoffrey, Priscilla, and Loveday are such delightfully natural children, that the book is certain to be a favourite with boys and girls alike. *The Mean-Wells* is a title bestowed by Miss Quiller-Couch upon her youthful hero and his sisters, whose mischief s usually inspired by an honest desire to do some one a good turn, though they frequently fail in their meritorious object. The greater part of the book concerns the adventures of the two little girls, Priscilla and Loveday, whose friendship with a childless old man goes far towards reconciling him to his loneliness, but there is plenty of interest and incident apart from the main episode, and the book abounds in slight but clever character studies. The value of *The Mean-Wells* will doubtless be greatly enhanced in the eyes of its little readers by the coloured illustrations, which have been prettily executed by G. E. ROBERTSON.

The Lion's Whelp,[5] the story of a young Irish doctor's career, is a novel with a purpose. That purpose, we learn from the excellent introduction by Dr. John Campbell, which serves as a preface to the book, is

> to inculcate on the medical profession the necessity which exists for the education of the public in all that pertains to the maintenance of health and to the avoidance of disease, and he (the author) wishes to impress upon the public all that is summed up in the time-worn adage, "Prevention is better than cure." . . . Dr. Irvine impresses upon us the need for our profession to play the part of instructors in the laws of health, and of missionaries in the cause of moral improvement throughout every grade of society. This book is a challenge to the members of a noble profession to individually play a noble part, and to act up to the highest ideals of their high calling.

The fruitless struggle of an earnest young reformer to realize these "highest ideals," and so purify the medical profession from every taint of greed or self-seeking, forms the plot of *The Lion's Whelp*, whose hero, Dan Nevin, is, we need hardly say, an ardent apostle of Dr. Irvine's creed. The book opens with an account of Dan's student days in Belfast, but the scene is soon transferred to England, where the author gives some extremely unattractive pictures of the seamy side of medical practice in the provinces. After various unpleasant experiences (including a couple of unsolicited love affairs) Dan leaves England in disgust, and returns to Ireland in order to work up a practice of his own, where he can endeavour to

> loose from the limbs of the profession the fetters which bound it, rendering it largely useless in the fulfilment of its great function—the education of the community, the leading of it forth from the slough of ignorance with regard to the most elementary laws of health. There lay the true dignity of the profession, there its true function, that of "teacher." Every medical practitioner was "doctus" to some extent, but of what use was his learning if he remained learned simply for the purpose of treating the individual case of disease as it occurred? Of what use if he did not become a centre for the dissemination of the life-giving, disease and death preventing knowledge with which he had been entrusted in the interest of his fellows?

What, indeed? Nevertheless, as might have been expected, Dan's lofty aspirations entirely fail to attract a sufficient number of patients, and in despair he decides to go to America, where we finally take leave of him, happy at last in the embraces of a long-lost father and the wife of his dreams. The story, of which this is the merest outline, is long and involved, and to a great extent spoilt both by the author's stilted, and occasionally didactic, style, and the almost total lack of character drawing in the numerous persons to whom we are introduced, all of whom, however, have one salient feature—an inveterate habit of holding forth to each other at immense length in unnaturally high-flown language. These defects are all the more to be deplored inasmuch as Dr. Irvine is obviously capable of better things. There are many happy touches throughout the book which prove a sense of humour worthy of cultivation, such as the remark of Dan's friend when an offended colleague leaves the house in a huff: "I thought I heard some one go out in italics"; or, better still, the following description of the influence which a name may exercise over the character of its unconscious owner:

> Give a child the name "Jane," and serious results follow almost of necessity. That child will be a girl, the oldest girl of a large family, perhaps the first-born; she will grow up tall and thin; her hair will be parted down the middle, and tightly brushed over her temples; she will be demure, austere, and altogether a terror to evildoers.

In spite of all defects in literary style, however, *The Lion's Whelp* is a novel to be read, not only on account of its useful and much needed moral, but also because it contains an excellent description of the trials and temptations which beset the career of a medical man.

Once more Spain has supplied Mr. PAUL GWYNNE with a *mise-en-scène* for a story, though the greater part of the action of his latest novel, *Nightshade*,[6] takes place in Paris. This time the author of *Marta* and *The Pagan at the Shrine* has contented himself with adding another volume to that already large class of books dealing with the supernatural which is so popular at the present moment. The principal character of Mr. Gwynne's new book is a certain Dr. Meisterlimmer, a mysterious old man, who, it is more than hinted, is the Prince of Darkness himself in human form, and who is the proud possessor of a magic lamp, which gives its name to the present volume. Meisterlimmer plays the part of evil genius to the blind hero Pablo, a Spanish violinist, and to the two women who love him, and he and his uncanny lamp go far towards wrecking the lives of all three. After the tragic death in Paris of the elder girl, Carmen, her younger sister, returns home to Spain and enters a convent; and it is through her intervention that Pablo is finally released from the clutches of Meisterlimmer, though not before the latter has reduced the city of Seville to a veritable pandemonium of hysterical rage and excitement. The last scene of the book, which takes place in Seville Cathedral as it is being besieged by the rioters, is really thrilling, for Carmen, in her nun's dress, suddenly appears in the midst of the howling mob as Meisterlimmer is urging it on to work of destruction, wrests the fatal lamp from out of the hands of its owner and smashes it into atoms before his eyes. And here the story ends, for the curtain is rung down as the defeated demon vanishes into space, his deluded followers suddenly recover their sanity, and Pablo and Carmen fall into each other's arms, where, let us hope, they find at last "Sleep after toyle, port after stormie seas." There seems no reason why they should not, for we are told that Carmen is after all only a novice, and therefore of course she is bound by no irrevocable vows. So far Mr. Gwynne is entirely in the right, but it is only fair to his readers to add that his knowledge of nuns is of the most untrustworthy kind, and that his descriptions of convent life are, to put it mildly, decidedly inaccurate. On the other hand, Mr. Gwynne is entirely at home with places and people that he knows at first hand, and *Nightshade* is worth reading if only on account of the charming pictures of French and Spanish life and scenery with which it abounds. The readers who will most cordially appreciate this clever book, however, will doubtless be those who resemble Riri, the Paris gamin, in their tastes, and "like things that are horrible."

Cornered,[7] by PERCY J. BARROW, is the usual kind of healthy, straightforward school story for boys in which virtue is rewarded and evil is overtaken by a just retribution. This time the scene is laid in the big public school of Exted, the chief characters being a pair of brothers who share the honours of hero, and a somewhat unconvincing villain in the form of a wicked prefect, who overreaches

[4] *The Mean-Wells*. By Mabel Quiller-Couch. Illustrated by G. E. Robertson. Published by Wells Gardner, Darton and Co., Limited, 3 and 4, Paternoster Buildings, E.C., and 44, Victoria Street, London, S.W. 1910. (Pp. 164. 3s. 6d.)

[5] *The Lion's Whelp*. By G. M. Irvine, B.A., M.B., with Introduction by John Campbell, M.A., M.D., F.R.C.S.Eng., LL.D. (Hon. Causa). London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1910. Pp. 406. (6s.)

[6] *Nightshade*. By Paul Gwynne. London: Constable and Co., Ltd. 1910. (Pp. 431. 6s.)

[7] *Cornered*, by Percy J. Barrow. Illustrated by A. Talbot Smith. Published by Wells Gardner, Darton and Co., Limited, 3 and 4, Paternoster Buildings, E.C., and 44, Victoria Street, London, S.W. 1910. (Pp. 221. 1s. 6d.)

himself in his efforts to lead one of his companions astray. Monty, the good boy, "one of those characters that success does not spoil," is too virtuous to be interesting, but his elder brother Lionel goes through all sorts of adventures, which finally culminate in his running away from school and going to sea. The rough discipline of a sea-going life does much towards his moral regeneration, and all ends happily with his return to Exted and the departure of the boy whose evil influence had so nearly ruined him. The story, which is well and brightly told, is suitably illustrated by A. Talbot Smith, and will doubtless prove exceedingly acceptable as a Christmas present for schoolboys of a certain age.

A. M. IRVINE is the author of several good novels, but none of her writings have hitherto come up to the high standard attained by her latest book, *The Probationer*.[8] As the title indicates, this simple but clever little story is an account of the trials and difficulties of a home-bred girl who, in a fit of enthusiasm, takes up nursing and finds it very different from what she had anticipated. Nurse Atherton's numerous mistakes and misadventures are told with delightful humour and sympathy, and the descriptions of life in a children's hospital are realistic without being unpleasant. There is no over-emphasis of the tragic side of a nurse's career, but, in spite of its many amusing scenes, *The Probationer* might serve as a useful warning to many who contemplate taking up nursing as a profession without any idea of the hard work and need for physical endurance it entails. The love story which runs through the book is, it is needless to say, that of the probationer herself with the inevitable house-surgeon; and this episode is perhaps the only false note in an extremely amusing and original piece of work, which, both in matter and form, is distinctly above the average of the usual novel. *The Probationer* is well printed in large type, and prettily illustrated by P. B. Hickling.

"In this book," says Miss CHRISTINA FRASER, in the preface to her charming *Glints o' Glengonnar*,[9] "the reader will find a small part of Scotland carefully and truthfully displayed. It is not an artistic distortion of Scottish life for the diversion of a cockney public; neither is it a selection of *nesty bodies* to show the seamy side of our national character; nor a fancy picture of butter-scotch piety; but it tells . . . in the homely motherly tongue the story of everyday folk, no worse, if no better, than those of the present generation." These words describe the purport and contents of Miss Fraser's most interesting book far better than could any reviewer, and it may be said at once that the authoress has been entirely successful in her efforts to portray the simple, strenuous people she so thoroughly knows and understands. She writes with a sympathy and humour that are wonderfully pleasant, and some of her sketches of life in a lonely glen of Clydesdale deserve the highest praise. "Merlin's Cairn," the first in the book, is perhaps the best of the whole collection. It is a pathetic little story of the death of a shepherd and his faithful dog in the snow, and it contains a really fine description of a high wind raging round a remote and isolated farmhouse. Another most graphic account of a wild snowy night is in "The Doctor's Visit," where the narrator confesses that "doctors ha'e a terrible life. I dinna ken hoo they leeve; but I maun alloo that oor yin is made o' guid stuff, an' disna care hoo he trauchles himsel' as lang as he's helpin' ithers." But Miss Fraser's stories are not entirely made up of pictures which paint the more gloomy side of the Scottish peasant's existence. Some of these tales afford delightful glimpses into the amusements and superstitions of a bygone age, and others are extremely amusing. Of these latter, "Easie's Ludger," and "A Leap Year Wooing" may be especially mentioned; whilst "Henny and Houpie" is a short but clever sketch of an old couple who console themselves for their advancing age and impending infirmities by discussing the manifold iniquities of the rising generation. Mr. Arthur Ferrier's beautiful pen-and-ink illustrations confer an additional charm upon these attractive *Glints o' Glengonnar*.

[8] *The Probationer*, by A. M. Irvine. With six illustrations by P. B. Hickling. Published by S. W. Partridge and Company, Limited, 8 and 9, Paternoster Row, London. 1910. (Pp. 300 2s. 6d.)

[9] *Glints o' Glengonnar*. A series of stories from Upper Clydesdale told in the vernacular By Christina Fraser. With six pen-and-ink illustrations by Arthur Ferrier. Glasgow and Dalbeattie: Fraser, Asher and Company, Limited. 1910. (Pp. 171. 2s. 6d.)

TRAVEL.

IN *Uganda for a Holiday*[10] Sir FREDERICK TREVES adds another volume to the series he has already published giving his impressions of the various countries he has visited off the beaten track of the ordinary tourist. The present book is a record of a pleasure trip to British East Africa and Uganda, written from the point of view of the "unspecialized traveller, of the man who merely seeks somewhere to go," and the distinguished author, who uses the pen as deftly as he wielded the knife, has produced a most interesting account, written in a racy, unaffected style. From Mombasa, Sir Frederick travelled up country by the Uganda railway—a wonderful feat not only of engineering but of civilization, for the country through which it passes is, even now, still of the Stone Age—halting en route at Nairobi, the capital of the British East African Protectorate. Thence he proceeded to Naivasha, where the party went "on Safari" through the Riff Valley till bad weather compelled a return to the railway, whereby the journey to Lake Victoria Nyanza was completed. At Port Florence the party embarked on the Uganda Railway Company's well-appointed steamer for a voyage round the lake. At Entebbe a visit was paid to Kampala, the native capital of Uganda; a visit to Jinja for the Ripon Falls and the source of the Nile concluded the sight-seeing, the party then returning down country and embarking for home. Sir Frederick gives excellent pen pictures of the scenery through which he passed, and it is surprising to the stay-at-home ignoramus to learn that the uplands of Central Africa are strikingly English in general scenic effect; one's dreams of those regions have always been of hideous swamps with thick impenetrable undergrowth or of the standard palm tree. Sir Frederick's comments on the natives of the various tribes are most interesting, and when he describes their ideas of fashionable attire, most entertaining. The most interesting parts of the book to professional readers are naturally those dealing with the climate and the conditions under which the white men have to live. In British East Africa the climate of the low-lying coast line is very bad for the European settler, but the uplands, the country around Nairobi, which is 5,450 ft. above sea level, "is undoubtedly a white man's country." Here "there are no mosquitos and no malaria. There is no prevailing disease." "The climate is delightful, not merely for a few months in the year, but all the year round . . . like that of a perfect English summer."

Of Uganda he says: "The average elevation of Uganda is about 4,000 ft. The climate is mild and agreeable . . . never unpleasantly hot nor unpleasantly cold, for the average maximum is 78.4° F. . . . Uganda at a height of 5,000 ft. may be regarded as healthy, but below that level the claim cannot be maintained. Indeed, Uganda is not a white man's country—that is to say, is not a country where a European with his way to make can settle for life and hope to bring up a family. . . . The diseases which are most troublesome in the country are malaria, blackwater fever, and tick fever."

Sir Frederick gives a clear and short account of the sleeping sickness and its exciting causes, and brings home very forcibly the ravages of the scourge among the native population when he describes the voyage along the western shore of the Victoria Nyanza; the country is almost ideally pleasant to look upon, but is now absolutely deserted by man, "inviting as seemed the shore, one looked in vain for huts, for canoes, for fishermen." Such natives as escaped the tsetse fly have all been sent away inland and their huts and their canoes destroyed, so that they cannot return. Sir Frederick speaks highly of the prophylactic measures initiated and carried out by

[10] *Uganda for a Holiday* By Sir Frederick Treves, Bart, G.C.V.O., C.B., LL.D. London: Smith, Elder, and Co. 1910. (Pages 233, with 72 illustrations from photographs by the author, and a map. 9s.)

Dr. Aubrey Hodges, Principal Medical Officer in Uganda, "whereby the deaths from sleeping sickness in the kingdom of Uganda have been reduced from 8,003 in 1905 to 975 in 1909."

Perhaps the most remarkable feature of the book is that such a journey as that described should be possible. Fifty years ago no white man had ever penetrated to the Great Lake. Twenty-five years ago the country visited was still darkest Africa in every sense of the word. Yet here we have a distinguished man journeying all over the country by rail and steamboat—even by motor car—on a holiday trip involving no more risk to life and limb apparently than a week-end visit to a country house. No more eloquent testimony could bear witness to the march of progress.

We can readily recommend this latest book by Sir Frederick Treves to all who take an interest in the British Empire beyond the seas. Written clearly and humorously, entirely free from the technicalities of the big game hunter and the explorer, it should appeal to the Briton who has never travelled beyond the fringe of the English Channel. Finally, a word of praise must be given for the many excellent photographs by which the book is illustrated: they reflect the greatest credit alike on the author who took them and on the reproducer.

Messrs. Smith, Elder and Co. have just published a popular edition of *The Cradle of the Deep*,[11] by Sir FREDERICK TREVES. This book is an account of a voyage to the West Indies taken two years ago, written in Sir Frederick Treves's breezy style. Descriptions of the islands as they are to-day are interwoven with historical accounts of the famous Spanish Main. We are not surprised at the publishers wishing to bring this book within the reach of a wider circle of the public, for the West Indies, with a history so intimately bound up with the history of the navy, should fascinate all Englishmen. Clearly printed, the book is profusely illustrated from photographs, which have suffered little in clearness from being of necessity reproduced on rather inferior paper.

The Scilly Isles, which a past generation of schoolboys were taught to believe to be the Cassiterides whence the Phoenicians, and after them the Romans, got tin, are now known to the British matron as the source of early flowers and potatoes, and to a few enterprising tourists as a spring paradise. More would find their way there but for the thirty miles or so of stormy, choppy sea which separates them from the nearest Cornish port. The volume entitled *The Isles of Scilly*[12] will probably increase the number of those who valiantly resolve to dare the peril of the Atlantic in a small steamer to gain a spring holiday in an archipelago where, even in February, there is a reasonable prospect, if not always at least often, of finding warmth and sunshine. The scope of the book is well enough stated in the preface, where it is described as containing "impressions of an artist, recorded in colour, together with so much of the history of the islands and of general description as is necessary to comply with the unwritten law of colour books." We are not well acquainted with this law, but it would seem to imply enough to explain the selection of the pictures. These number twenty-four, and are for the most part well reproduced in colours. Some of them, especially those containing figures, seem a little garish. The artist may retort that our fog-dimmed skies have distorted our sense of colour. It may be so, and some of the pictures—such as the two of Cromwell's castle, Tresco, the garrison gateway, St. Mary's, and the view of Round Island from St. Helens—are charming. The book is indeed worthy of high praise, and if it sends to those islands some of those who, seeking sunshine and quiet in the early spring, fear to find neither on the Riviera, the devotees of Scilly must comfort themselves with the reflection that under the existing circumstances of transit and accommodation the fashionable folk and the "smart set" are not likely to be among the intruders. The islands, of course, have a typical maritime climate; and though the winter is mild and spring usually early and bright, fogs are not uncommon, the rainfall is not small, and storms are frequent and often severe; but bad weather seldom lasts long, and the good is very good.

[11] *The Cradle of the Deep.* By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D. Popular edition. London: Smith, Elder and Co. (With 54 illustrations and 4 maps. 6s.)

[12] *The Isles of Scilly. Their Story, their Folk, and their Flowers.* By Jessie Mothersole. London: The Religious Tract Society. (Med. 8vo, pp. 256. 10s. 6d.)

ANNUALS.

LAVISHLY illustrated in colours and in black and white, strongly bound, and full of the most varied literary matter, the *Boy's Own Annual*[13] and the *Girl's Own Annual*,[13] the yearly volumes of the *Boy's Own Paper* and the *Girl's Own Paper and Woman's Magazine*, make admirable gift books; for while the older children will enjoy the serial and shorter stories, the younger will be able to appreciate the illustrations. At this dark season of the year quantity as well as quality is a recommendation, and in both respects these volumes will be found to fulfil expectations.

POETRY.

THE publication of a new edition of Mrs. HORACE DOBELL'S poetical works[14] should be of especial interest to our readers. The handsome volume in which these charming verses are now presented to the public contains a large collection of poems written at every period of life, from early girlhood down to extreme old age, by the gifted wife of a well-known physician, whose studies on tuberculosis she shared and to some extent assisted. Mrs. Dobell is a very graceful and versatile writer, and much of her work is of a high order of artistic beauty. Perhaps the daintiest of all her verses are those written for her own children and grandchildren, which are very simple and tender, and have the directness that appeals most of all to the youthful mind. A short poem of Mrs. Dobell's, composed in 1880, and entitled *The Good Physician*, which describes the daily life and labours of her husband and his professional brethren, has already appeared in the pages of the BRITISH MEDICAL JOURNAL. A biographical sketch of the poetess forms an introduction to the poems, and the volume is illustrated by some interesting photographs, both of herself and of her various homes.

A CITY OF DREADFUL NIGHT.

MR. L. COPE CORNFORD has already earned a certain reputation as a writer on present-day social problems by virtue of that clever book, *The Canker at the Heart*, in which he described so graphically the conditions under which thousands of his poorer fellow countrymen live and die, and therefore any other work on the same subject is sure to be welcomed from his facile pen. His latest book will not disappoint his many admirers. *London Pride and London Shame*[15] consists for the most part of short sketches of life in the underworld of this great city, many of which have already appeared in various newspapers and periodicals. The majority of these articles give the reader a curious but quite unmistakable impression of having been written in a white heat of indignation during the last General Election, which may possibly account for the profound pessimism with which the whole book is tinged. It is hardly too much to say that London, in Mr. Cornford's eyes, is simply a vast sink of vice and hopeless poverty, where injustice and cruel wrong work their will unhindered upon the helpless victims of a luxurious civilization. The saddest part of all is that Mr. Cornford sees no remedy and has no advice to offer as to the best means of combating an evil which he foresees may quite conceivably prove the ruin of England. He tells his readers frankly that no human power can grapple with the unspeakable misery and degradation left as a legacy to the present generation through the vices and follies of our forefathers, that "there is only one thing to be done, and its name is Duty. . . . If each individual in each class of

[13] London: Religious Tract Society. 1910. 8s. each.

[14] *The Poetical Works* of Mrs. Horace Dobell. With a Biographical Sketch. Illustrated. London: Smith, Elder, and Co., 15, Waterloo Place. 1910. (Pp. 812. 10s 6d.)

[15] *London Pride and London Shame.* By L. Cope Cornford. Published by P. S. King and Son, Orchard House, Westminster. 1910. (Pp. 174. 6s.

society had done his duty there would be no 'social problem' to-day. Duty cannot be done in battalions. It must be done by the one. Therefore (it seems) the less shouting there is the better; the fewer societies there are the better; the less theory-making there is the better." The latter half of this very sound piece of advice, by the way, might be taken as a useful hint by many in these days of professional philanthropy. Though the terrible scenes of slum life are undoubtedly the best things in the book (one in particular, which describes the visits of a medical student to his maternity cases, is almost cruel in its hideous realism), Mr. Cornford has not confined his attention solely to the tragedy of East End existence, but has written some charming descriptions of the brighter side of the picture, as, for instance, his account of Bank Holiday at Wanstead Fair, or the article on a trip to Margate, or "Orators," an exquisitely funny sketch of the multifarious speakers who throng the parks on Sunday afternoons. He has, moreover, described some of the great landmarks and public institutions of London and everyday scenes from London streets with an overflowing sympathy and humour only possible in one who has a complete understanding of his most complex subject. Mr. Cornford writes delightfully, with a loving pity for his less fortunate fellow-citizens which forms the chief charm of his book; but, no matter of what he speaks, through all there sounds a note of solemn warning against the decay of public feeling and patriotism in England, the growing love of ease and luxury, and the steady deterioration of the race. This is no idle "'ware wolf" cry, but an earnest protest from a man who obviously means every word he says. There can be no doubt that the author of *London Pride and London Shame* has studied his subject at first hand, and it behoves us to see that his words of warning are not lightly disregarded.

NOTES ON BOOKS.

Pye's Elementary Bandaging and Surgical Dressing has been revised and partly rewritten by W. H. CLAYTON-GREENE, B.A., F.R.C.S., and V. ZACHARY COPE, M.D., F.R.C.S., and is now issued as the twelfth edition of the work.[1] There are numerous alterations in this edition, and these have been adapted for the most part from the recent new edition of the old standard book, Pye's *Surgical Handicraft*. The book is divided into three main sections descriptive of (1) apparatus for restraint and support; (2) the simpler ways of dressing wounds, burns, and scalds; and (3) the treatment in the first instance of accidents and emergencies. Each section deals in a most satisfactory manner with its portion of the subject, and forms an excellent and quite up to date guide in elementary surgery. We do not look for a highly-finished literary style in surgical literature, but we feel bound to remark that this little book reads so smoothly and pleasantly, and yet is so concise, that the junior student and probationer nurse into whose hands it is put will be in spite of themselves carried along in its perusal. We have but little adverse criticism to offer of such a very good little book, but we think that the "capeline" and "twisted bandage" for the head should no longer be taught in these days when soft broad gauze bandages are in general use, and also that digital compression of the aorta is not so satisfactory a method nor so generally applicable as the method of pressure by the closed fist—the public speaker attitude—taught by Macewen. The illustrations are numerous and appropriate, and there is a complete index. The book is the size of a postcard, and therefore small enough to be carried in the pocket.

VISITING LISTS AND DIARIES.

One of the most attractive visiting lists with which we are acquainted is that issued by Messrs. Walker under the name of the *Loose-leaf Medical Pocket Book*. It contains exactly as much or as little as the user wishes. He can vary his list in accordance with the special needs of his practice at any particular time, and as soon as any page is full he can remove it without disturbing the rest of the contents, either destroying it or putting it into a "transfer book" as a permanent record. As commonly put together to meet the needs of general practitioners it contains a visiting list, records of visits paid, and vaccination and obstetric engagements, temperature charts, duplicate prescription sheets, some treatment and clinical diagram sheets and sheets for cash accounts, some ledger sheets, and records of accounts rendered. These are the more important sheets, and there are others which, with the foregoing, provide for a complete account of the work of any practitioner day by day, both in its scientific and financial aspect. An additional point to be noted is that the book is quite easy to use, and, despite the multiplicity of functions it fulfils, is by no means bulky. The same firm also issues ordinary pocket books and diaries constructed on the same loose-leaf principle, and numbers of diaries and almanacs bound in ordinary form. They vary in size from neat little vest pocket almanacs to large business diaries. The page matter is well arranged, and, though useful notes are included in nearly all forms, they are free from the superfluous matter with which many diaries are loaded up. A notable point about all of them is the excellence, and even daintiness, of the binding. Some well-devised desk calendars and pull-off tablets for hasty notes, as well as block calendars, are also issued by Messrs. Walker.

[1] *Pye's Elementary Bandaging and Surgical Dressing.* Revised by W. H. Clayton-Greene, B.A., M.B., B.C.Cantab., F.R.C.S Eng., assisted by V. Zachary Cope, B.A., M.D., M.S.Lond., F.R.C.S.Eng. Twelfth edition. Bristol: John Wright and Sons, Limited. (Pp. 235; 89 illustrations; 1910.)

SANITARY APPLIANCES.

Disinfectants and Soaps.

MESSRS. EDWARD COOK AND CO., Ltd. (Bow, London, E.), have submitted samples of a number of their products, including disinfectants and soaps. The principal disinfectant made by this firm is known as "Cofectant"; this is a dark alkaline fluid, which forms a milky emulsion when mixed with water. Analysis showed it to contain a large proportion of cresols and other coal-tar derivatives, and the emulsion formed when it is diluted for use is very stable; it has been shown that the efficiency of a germicide is materially increased when it is presented in the form of a very good emulsion, and there can be no doubt that "Cofectant" is a very satisfactory preparation and a powerful disinfectant. It does not appear desirable, however, that it should be described on the label as non-poisonous, even when allowance is made for the increased safety of such a preparation over plain carbolic and cresylic acids. A special form of "Cofectant" is prepared for surgical use. "Cofectant" powder is a dry siliceous powder, which was found on analysis to contain about 25 per cent. of cresols and other coal-tar derivatives; such a product is, of course, totally different from the old forms of so-called "carbolic powder," and "Cofectant" powder must be regarded as a very active and useful preparation. Messrs. Cook and Co. inform us that if sprinkled on the sills of windows it is very useful in destroying and banishing flies, and that it prevents the development of larvae if sprinkled on putrefying matter containing them. "Unguentum Cofectant" is an ointment having a wool-fat basis, and containing zinc oxide and cocaine, but analysis did not show more than a trace of phenolic constituents. The specimens of soaps submitted included "Throne" and "Riviera" varieties as representatives of toilet soaps made by the firm; both of these were found to be perfectly free from uncombined alkali and alkali carbonate, and exceedingly pleasant to use. Medicated soaps included "Asepso," a soap containing biniodide of mercury, 3.2 per cent. of which was found to be present on analysis; carbolic toilet soap, our examination of which showed 4 per cent. of phenol to be present; coal-tar soap, "Cofectant" tar soap, "Cofectant" bath tablet, and "Cofectant" disinfectant soap, which were found to contain phenolic constituents in varying proportions.

THE trustees of the Dudley Hospital have received from the executors of the late Mr. Hugh Lewis a sum of £40,000, and a second and final payment of probably £30,000 is expected shortly, making a bequest of £70,000. The report of the hospital for 1909 shows an adverse balance of £2,725 on the year's working, while during the previous three years the adverse balances were: 1906, £285; 1907, £902; and 1908, £1,832. The number of in-patients under treatment during last year was 1,091, and the admissions in the out-patients' department were 2,457. The committee has in contemplation a scheme for providing increased accommodation for out-patients.

New University, Birmingham.

SEVENTY-NINTH ANNUAL MEETING

OF THE

British Medical Association

BIRMINGHAM, JULY, 1911.

As members know, the British Medical Association has accepted the invitation of the Birmingham Branch to hold its Annual Meeting for the fifth time in that city next July, under the Presidency of Professor Robert Saundby, M.D., M.Sc., LL.D., F.R.C.P., Professor of Medicine in the University of Birmingham and Senior Physician to the General Hospital. We understand that the preliminary arrangements are proceeding most satisfactorily, the Birmingham Branch being supported and assisted in its efforts by the cordial co-operation of the Staffordshire, and Worcestershire and Herefordshire Branches.

BIRMINGHAM AND THE ASSOCIATION.

There is no town in the kingdom where there is more loyalty towards the Association than Birmingham. This is mainly to be explained by the fact that for forty years the Association had its headquarters in Birmingham and Birmingham men formed a large proportion of those who fostered it during its days of struggle, so that the relation is to some extent parental. It has given to the Association in the past four Presidents, three Presidents of Council, and a Treasurer; for many years the Secretary was a Birmingham practitioner, while his successor, Mr. Fowke, gave up the house governorship of the Birmingham General Hospital to become the first lay Secretary of the Association. The Birmingham Branch, although not the first to be formed, was always one of the most active, as soon after its foundation it became the principal local medical society, holding two and at one time three meetings in the month, including the meetings of its sections. The Branch meetings were at one time attended by practitioners from a radius of fifty miles round, and although the increased activity of numerous local centres has deprived Birmingham of the unique attractions it at one time possessed, the fortnightly gatherings still hold their own as meetings for the exhibition of patients and specimens, and the reading and discussion of papers concerned with the science and practice of medicine. The Branch has always been able to enlist the services of the most energetic and capable members of the local profession, and they have exerted considerable influence in the counsels of the Association. We need only recall the names of Sir Walter Foster, now Lord Ilkeston, President of the Council 1884–7, Sir Willoughby Wade, Treasurer, and subsequently President, in 1890, and Professor Saundby, President of the Council 1896–9, now President-Elect. The local popularity of the Association has not lessened in recent years, if we may judge either by the number of the members of the Branch or by the reports we hear of the way in which the invitation to the Association to meet in Birmingham next year has been received by the profession in that city and district.

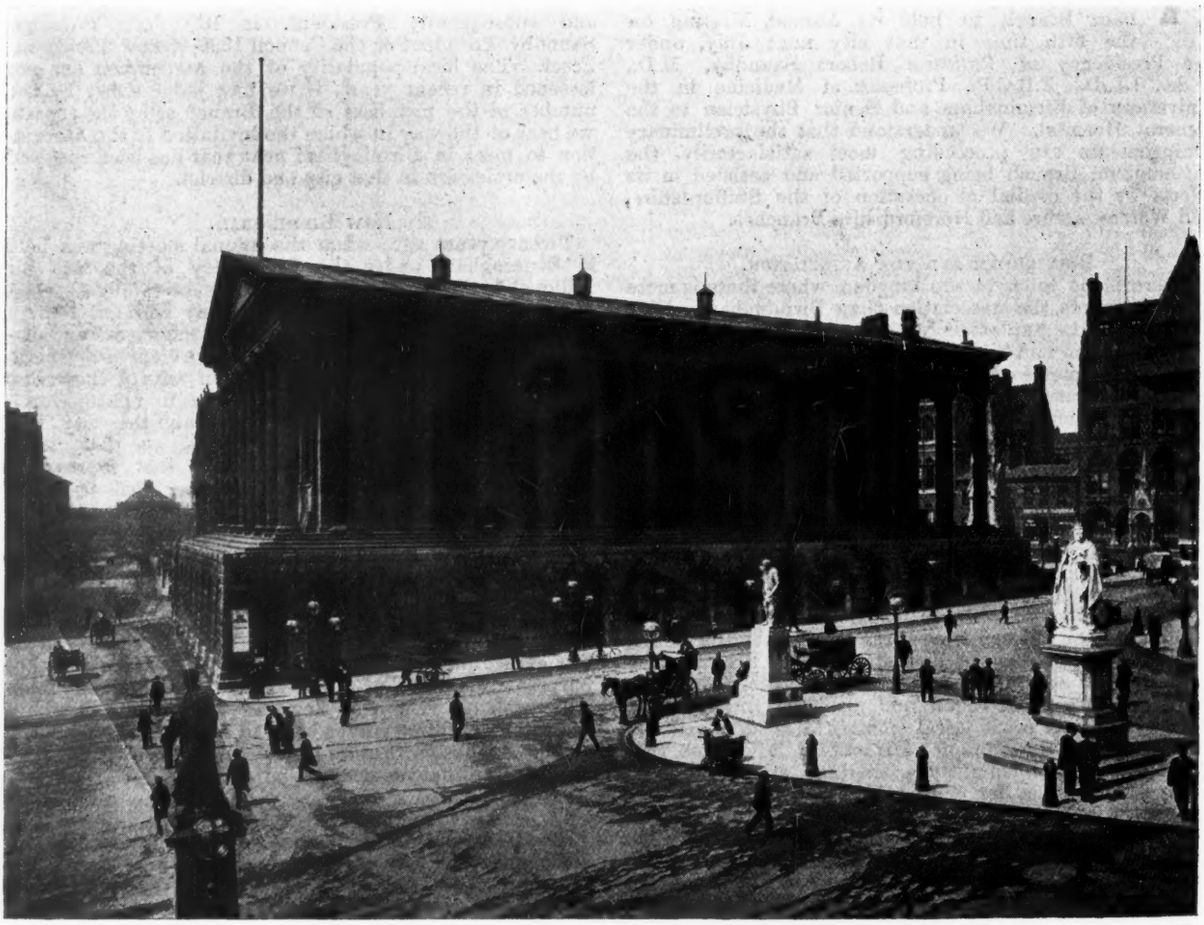
NEW BIRMINGHAM.

Twenty years ago, when the annual meeting was held in Birmingham under the Presidency of the late Sir Willoughby Wade, there was a most successful gathering, distinguished by the presence of many eminent foreign guests and memorable for the value of the papers and discussions. In the twenty years that have elapsed a generation has passed away, so that few, if any, of those who took a leading part then are likely to figure prominently among our hosts next year; and the city has undergone many important changes, so that those who knew it then will find much that is new to interest them. The General Hospital has been rebuilt on a new site, the Queen's Hospital has been much enlarged, the Women's Hospital has been removed and rebuilt, a university has been established, and large university buildings erected outside the town. Moreover, Birmingham has become the seat of a bishopric, presided over by one of the most distinguished of Anglican prelates, Dr. Charles Gore; and St. Philip's Church, now used as the cathedral, has been altered and improved for that purpose. Members of the Roman Catholic Communion will wish to visit the Newman Memorial Church—a beautiful Byzantine edifice built to replace the old church at the Edgbaston Oratory of St. Philip Neri, founded by the late Cardinal Newman.

THE GROWTH OF BIRMINGHAM.

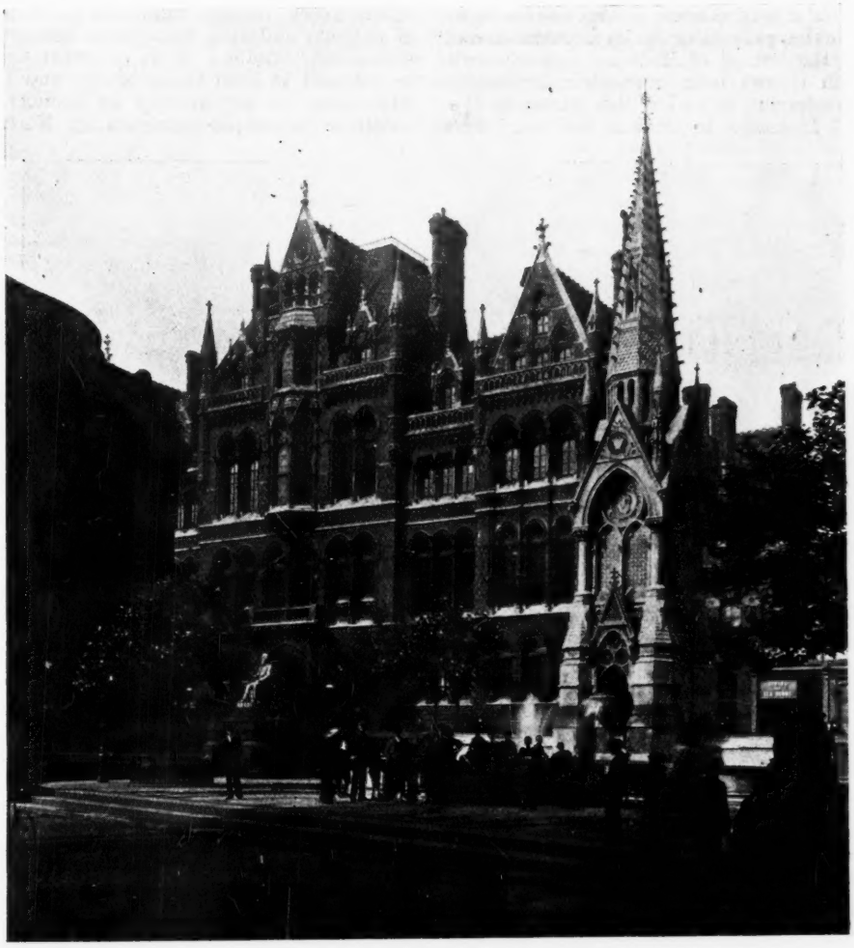
The history of Birmingham is astonishingly modern, for although it was without doubt a market town before the Norman Conquest and was a seat of iron manufacture so ancient that Hutton, the historian of Birmingham, believed it possible that it provided the arms for the warriors of

Queen's Hospital, Birmingham.



Town Hall, Birmingham.

Boadicea, yet it was not until after the restoration of Charles II that there was any material change in its size, the number of its inhabitants, or the extent of its industries. It was nearly depopulated by the plague in 1666, but in 1700 it had 15 000 inhabitants, and by 1780 these had increased to 50,000. During that period the iron manufacture had dwindled away and Birmingham had become the seat of an extensive and varied industry, devoted mainly to brass, but in addition it had become the principal centre of the English gun trade. According to Hutton, the impetus to the manufacture of guns in Birmingham was given by a chance remark of William III, who complained that England could not supply muskets for the army as did Holland; he was overheard by a Warwickshire member of Parliament, who undertook to see whether something could not be done, and, having obtained a sample, got a gun made in Birmingham which satisfied the King and led to a large order. The manufacture of military muskets during the eighteenth century was an important source of wealth to Birmingham, and was the foundation of the fortunes, among others, of the distinguished family of Galton. Opportunities will undoubtedly be provided for seeing some of the modern hives of industry in the city. During the last century Birmingham, favoured by its position on the borders of the coal and iron districts, aided by early communication by railroad and canal, blessed with a bracing climate, and hampered by no restrictive local laws, made such astonishing progress that it has overflowed its borders on all sides, and now not illegitimately seeks to include within itself the large population which surrounds it and owes its existence to the parent city.



Old University and Chamberlain Memorial.

THE CHARACTERISTICS OF BIRMINGHAM.

Hutton, the historian of Birmingham, to whom we have previously referred, ascribed a large share in the prosperity of the town to the energy of its inhabitants, and this, again, might be fairly attributed to its bracing climate. Few people realize that Birmingham is one of the highest towns in England, and certainly the highest city of such magnitude. The cathedral stands on an eminence which has been said to be as high as the cross of St. Paul's, and the lowest part of the present city is 320 ft. at Saltley, the level rising to over 700 ft. at the west end of Edgbaston. Old Birmingham occupied this ridge, the land falling away on either side, to rise again in similar folds, so that Birmingham is not only itself on high ground, but is surrounded by suburbs at an equal elevation, although in the valleys separating these ridges there is, of course, lower land. The soil is a dry, red sand, which goes down for hundreds of feet. When the new General Hospital was being built it was found impossible to get a foundation of rock for the two great towers which form imposing features of that structure, and they consequently had to be based upon concrete. But this deep layer of sand ensures thorough drainage; even the valleys contain nothing that can be called a river, the small brooks, named the Tame and the Rea, having only formed alluvial land to a very limited extent. Hutton, in his day, thought the atmosphere of the place so stimulating that "it was easy to give instances of people whose distinguishing character had been idleness, when, in the bracing air of Birmingham, diligence became the predominant feature of their characters." He says, again, that when he came to Birmingham he was "surprised at the place, but more so at the people; they were a species I had never seen; they possessed a vivacity I had never beheld; I had been among dreamers, but now I saw men awake"; we are glad to see that he adds "I was treated with an easy freedom by all and with marks of favour by some; hospitality seemed to claim this happy people for her own"; and he pays a grateful tribute to the town—"I was hungry and she fed me, thirsty and she gave me drink, a stranger and she took me in. I approached her with reluctance because I did not know her; I shall leave her with reluctance because I do." With such a character to maintain, the citizens of Birmingham will doubtless make every member of the British Medical Association who attends the meeting next year ready to echo Hutton's words. With reference to the salubrity of Birmingham, it is interesting to know that in 1780, according to Hutton, the town possessed "the most complete baths in the whole island." "These," he says, "are seven in number, erected at an expense of £2,000, accommodation being always ready for hot and cold bathing, for immersion or amusement, with conveniency for swimming." The swimming bath was 18 yards broad by 36 yards long, and was situated in the centre of a garden in which were twenty-four private dressing rooms, the whole being surrounded by a wall 10 feet high. He speaks of the bath with praise, not so much as a means of cleanliness, but as a restorer of health, for he talks about "the gloomy horrors of a bath which sometimes deter us from its use" Yet in spite of this early advance Birmingham is not known to balneologists; the bath situated in the garden has long ago made room for brass-houses and factories, and Birmingham's chance of becoming a health resort has vanished under her clouds of smoke and the noise of her anvils.

THE MEDICAL SCHOOL.

The Medical School of Birmingham, which now forms the Queen's Faculty of Medicine in the University of Birmingham, was founded in 1828, by Mr. Sands Cox, and acquired subsequently, by permission of King William IV, the title of "the Birmingham Royal School of Medicine and Surgery." In 1843 it obtained a Royal Charter of incorporation, and was from that time known as Queen's College, Birmingham. In 1868 the college was amalgamated with Sydenham College, which had existed for some years as an independent medical school connected with the General Hospital, Queen's College being connected with Queen's Hospital, which had in fact been established for the purpose of giving clinical instruction to the students of the college. In 1882, after the opening of Mason Science College, an arrangement was made by which the professors of chemistry, physiology, and botany in that college were appointed professors of these subjects in Queen's College, so that students of the latter institution could attend classes of those teachers in Mason College. About ten years later the important step was taken of separating the School of Medicine from Queen's College, with which it had been connected for nearly fifty years, and transferring it under the name of the Queen's Faculty of Medicine to Mason College. The Faculty was able to secure the transfer of such small endowments as it possessed, consisting of certain scholarships, but as a going concern which then paid its expenses it was welcomed to the new Science College, and now forms an important part of the university, which was incorporated by Royal Charter in 1901. Like all medical schools, it is now on a very different footing from what it was thirty or even twenty years ago; the growth of special departments called for by the remarkable progress of the sciences upon which medicine is based has required well-equipped laboratories and a staff of departmental lecturers and demonstrators, to provide which would have sorely taxed the resources of the Medical School had it attempted to stand alone. Clinical instruction is still given by the hospitals under the control of a clinical board, independently of the university, but it is probable that before long this department of teaching will become part of the work of the university, under the control of the Faculty of Medicine and the authority of the Council and Senate. A large and flourishing Dental School has been in existence for many years, and the university confers not only a licence in Dental Surgery, but the degrees of Bachelor and Master of Dentistry. A new Dental Hospital has recently been built in the centre of the town, where admirable arrangements exist for clinical instruction and practice. An Odontological Section will form part of the work of the Annual Meeting, and it is hoped that this will be not its least successful feature. The Dental Museum at the university has, under the fostering care of Mr. Humphreys, the Dean of the Dental Faculty, become of considerable interest and value, and a dental section of the annual pathological museum will, it is hoped, prove attractive.

The General Hospital, Birmingham.

ACCOMMODATION FOR SECTIONAL AND OTHER MEETINGS.

It is hoped that the general reception and the President's address will be held in the Great Hall of the University at Bournbrook on the evening of Tuesday, July 25th. So far as present arrangements have been made it is intended to use the Town Hall as a reception room, as was done in 1890; this affords ample accommodation, including writing tables and reading room, without any inconvenient crowding. The other addresses will be given in the large theatre of the Midland Institute, which stands by the side of the Town Hall, and most, if not all, of the Sections, will be accommodated in Mason College, which lies just behind the Town Hall.

PLACES OF INTEREST IN THE NEIGHBOURHOOD.

Although Birmingham extends over such a wide area that its immediate surroundings are built upon, with resulting damage to the appearance of what was at one time beautiful country, it is the centre of a district which presents almost unrivalled features of interest and attraction. Within a short distance are the two renowned medical spas of Leamington and Droitwich, where every modern appliance exists for the treatment of patients suffering from those diseases for which these waters are suitable. It is expected that excursions will be planned to both these places, and that all who wish will have an opportunity of seeing them. Warwick Castle is a unique specimen of Norman feudal architecture; Dudley Castle, now a ruin, marks the site of a stronghold of Aethelfrida, Queen of Mercia, and was the seat of Fitzausculf, one of William the Conqueror's Norman barons, under whom the Saxon thane of Birmingham held his manor. There are also at Dudley remarkable limestone caverns, which it is hoped permission may be obtained to visit.

Stratford-on-Avon, although in itself differing little from many other Warwickshire towns, exercises from its Shakespearean associations an attraction so universal that few visit Birmingham without paying their homage at the shrine of the Bard of Avon. An excursion to Stratford will undoubtedly form one of the features of the Birmingham meeting. It is also to be hoped that opportunities may occur for visiting Charlecote, the home of the Lucy family, and Compton Wynyates, perhaps the most beautiful house in England, the property of the Marquess of Northampton. Lichfield, with its cathedral, its memories of Johnson and Garrick, was the city of Sir John Floyer, the physician who in the time of Charles II first took the step that seems to us so obvious, of determining the pulse-rate by the number of beats in a minute, and who invented a special watch for the purpose. Among other curiosities, the city still possesses a specimen of the scold's bridle.

Worcester, while its chief glory is its cathedral, has many other attractions, and a visit here may be made to include a trip down the river to Tewkesbury, whose abbey presents features of great interest, while there are no finer examples in England of half-timbered houses with carved fronts; or Malvern may be seen on the same occasion, but the beauty of the place and its surroundings is too well known to call for comment. From the point of view of its archaeological interest Coventry stands in the first rank of old English towns. Its magnificent Perpendicular church of St. Michael and All Angels, and the mediaeval St. Mary's Hall, with its remains of fourteenth century glass windows, are sur-

passed nowhere, while the ancient documents possessed by the city are only exceeded in value by those of the city of London. But Coventry has now become a chief centre of the motor car industry, and may have much of modern interest to show to those who are already acquainted with its old-world treasures. Other places to which visits may be easily made are Boscobel House, about ten miles from Wolverhampton, where Charles II was hidden after the battle of Worcester, little changed from the time when the King found it a safe hiding place. The battlefield of Edge Hill is readily reached from Leamington; it is of medical interest to remember that William Harvey was present at the battle in the capacity of tutor to the young princes. The beautiful village of Broadway in Worcestershire, Berkeley Castle, Shrewsbury and the Severn, and Burton with its famous breweries may easily be visited from Birmingham as a centre. To some of these excursions will doubtless be arranged, but all or any of them are accessible by means of the excellent railway facilities that exist.

IN DEFENCE OF THE NOSTRUM MAKER.

UNDER the somewhat misleading title, *A Sequel to Secret Remedies*,[1] a little book has been published by a Mr. Frederick Phillips, who is described on the title page as "Lecturer in Mathematics at the University College, Southampton." The book, or pamphlet (there are only about fifty small pages of matter), is dedicated "to all those who labour *honestly* in the field of medicine"; and in the introduction the author says:

This book is not an attempt to quarrel with doctors, or to champion patent medicines; it has not been "inspired," "subsidized," or "suggested" by any interested party, but is an individual effort to probe a little way beneath the surface; for just as there are honest and unscrupulous doctors (many being struck off the rolls periodically), so there may be good and worthless secret remedies, and one has to discriminate in the employment of either.

On a careful perusal of its pages, there does not appear to be any reason to question the good faith of the author; but it is impossible to restrain a smile at the innocence with which he has applied to the makers of nostrums dealt with in *Secret Remedies*, and has accepted such replies as he has received as being worthy of publication; while in more than one place the usual ill results of the proverbial "little knowledge" are very apparent.

It would appear that the method Mr. Phillips adopted was to write to the makers of all the articles in question asking what they had to say in regard to the analysis published in *Secret Remedies*. The results seem to have been decidedly meagre. The author states that:

According to the postal authorities some few companies have "gone away," but whether as a result of the publication is much to be doubted. . . . In some cases the invitation was completely ignored; in others an intimation was received to the effect that no information could be accorded, the proprietors preferring to depend upon the judgment of those using their medicines; and, again, others expressed their willingness to have the searchlight of criticism, free from prejudice, applied to their methods of conducting business, as well as to their claims for their remedies.

Since replies are published from only 21 firms, referring to 27 of the 134 English and 26 German preparations given in *Secret Remedies*, it seems that the large majority of makers preferred to imitate the tactics of the French prisoner who, as the police agent complained, *Se renferma dans un système de mutisme complet*. The author remarks quite justly:

The silence, following the statements of the British Medical Association, is worth some consideration; it may be that the analyst has summed up the exact situation, and silence—that is, so far as some companies' medicines are concerned—is the only policy. On the other hand, one can understand the reluctance of companies to attack the publication of analyses which they consider inaccurate and misleading, seeing that the whole burden of proof would rest with them as plaintiffs; in other words, they would have to disclose the whole of their formulae and business methods.

Mr. Phillips did not omit to make inquiries into some of the testimonials which are usually published in such abundance by nostrum makers. He says:

Addresses were selected at random, and personal calls made, with curious results. In some cases the "first blush of enthusiasm" had worn off, and praise was superseded by something akin to abuse. A typical case is appended:

Extract from an Original Testimonial.

"I am very pleased to tell you that —— has done a lot of good. I have recommended it to several people."

Extract from Letter to Author.

"I believe I did write a testimonial in praise of it, but that was after I had only had two boxes, and I have come to the conclusion that it only —— and did not cure the person."

In a few cases the testimonial was denied in spite of the "original" being produced, which looks as if someone were sailing pretty close to the wind. A large number of the writers, however, were still found ready to stand firm to their previous convictions.

A short chapter is devoted to American medical qualifications, presumably because so many nostrums sold in Great Britain come from America, and some of these are professedly put forward by medical men. Mr. Phillips has drawn his information on this matter from "a gentleman of high standing in diplomatic service, and with a unique experience of both English and American schools of medicine," and "a member of the American Medical Association." The admissions in the following extracts will suffice for most people:

The idea of purchasing American medical degrees has been greatly exaggerated; it is true that a few "mushroom schools" at one time tried the experience of selling degrees, but the venture was quickly damped.

At the present time there are few men, with American medical degrees, who can be justly termed quacks.

During the past six or eight years dozens of mail order medical concerns have been prohibited the use of the mails, and the crusade has continued up to the present time, one of the largest advertisers having as late as July, 1910, been prohibited.

No wonder they come, or send their wares, to Great Britain, where they are not interfered with!

Mr. Phillips's inability to appreciate some criticisms, owing to insufficient general knowledge of the subject, is shown in many ways. He appears to think it unfair that, as he says,

The writer of *Secret Remedies* has devoted a chapter to cure-alls, and alludes to a preparation which claims to cure "such different disorders as constipation, rheumatism, St. Vitus's dance, heart disease, rickets, sleeplessness, kidney complaints," etc., but again omits to state that it is quite possible for a single preparation to cure a multitude of diverse ailments.

As an example of the latter fact he gives references to medical papers on the use of Poehl's Spermin and of calcium chloride in a variety of diseases, and apparently regards this as parallel to the claims made for the nostrum in question!

The replies of the makers in regard to the analyses naturally do not provide much matter for surprise; a few quotations will give an idea of them:

The analysis is incorrect as far as it goes, and omits a remedy of the greatest importance.

The analysis is incorrect.

The analysis is far from being true.

The analyst has not made a correct analysis, but as most of the dozen or more remedies are vegetable, he cannot reasonably be blamed.

The analysis is mere guesswork, and the remarks concerning the remedy vindictive and misleading.

The formulae are incorrect.

The published analysis is grossly incorrect; indeed, it is so altogether incorrect that one cannot believe any analysis has been made; or if an analysis has been made the work was entrusted to some person who was without any qualification as an analyst.

No competent analyst could ever have made the mistake of thinking he found these ingredients. Without imputing dishonesty, one is compelled to suspect "guessing" on a large scale.

Such "replies" really need no comment; the last one raises a curious question as to what this nostrum maker would regard as dishonesty if guessing at the composition of a preparation and giving the results of the guessing as being obtained by analysis, is not dishonesty.

The replies from the makers are accompanied by notes by Mr. Phillips on the properties of the drugs mentioned, and his evident unfamiliarity with his subject has led him into some amusing errors. For example, in *Secret Remedies* one of the constituents of a certain kidney pill is thus described: "Examination of the resin showed it to be derived from a coniferous source, and on comparison with various coniferous resins it agreed in characters with that of *Abies canadensis* (*Pinus canadensis*), known as hemlock pitch"; and hemlock pitch is accordingly given as "an ingredient in the formula which is stated to give "a similar pill" to the one in question. Mr. Phillips's note on this is:

Conine, the active princip'e of Hemlock, has been given in

[1] *A Sequel to Secret Remedies* (*In Search of Truth*). By Frederick Phillips, F.C.P., B.Sc.(Lond.), F.C.S. Southampton: F. Phillips. 1910. (Crown 8vo, pp. 59. 6d.)

many diseases such as epilepsy, chorea, etc., in some cases with success.

Probably if any doubt arose as to the connexion between hemlock pitch and hemlock (which have nothing in common), they were laid to rest by the evident connexion between conine and coniferous!

Again, red mercuric oxide is given in *Secret Remedies* as the principal constituent of an eye ointment; Mr. Phillips adds:

Note.—Mercurial ointments are extensively used by doctors. When applied to, or gently rubbed into any part chronically inflamed, such ointments often aid the absorption of the products of inflammation, if they are not too deep-seated. The composition of Blue Ointment, used somewhat frequently by the medical profession, is—

Mercury
Lard
Suet.

It is a pity Mr. Phillips omits to mention that mercury is also "extensively used by doctors" in the form of clinical thermometers.

On another page we read:

Podophyllin.—The chief constituents are the alkaloid berberine and resin (which is the purgative principle).

Enough has been said to show that, whatever the honest intentions the author of this pamphlet has brought to his self-imposed task, his qualifications for it in other respects are not as strong as they might be. But, even if a bias in favour of the injured innocent nostrum makers may have led him to undertake the presentation of their case, it is evident that a study of the matter has forced him to conclude that all is not as it should be. Under the heading "Conclusion" he says:

Every man has the right to select his own method of medication, and there would, probably, be a certain amount of resentment on the part of the public to any great interference with this right; protection, however, is necessary, as shown by the exposures of enterprising journals. . . . Clearly, if matters are to be readjusted, it must mean complete annihilation of Patent Medicines or systematic regulation. . . . The suggestion, contained in the British Medical Association's publication, of requiring the composition and ingredients to be stated on the label, would probably be effective in keeping *some* fraudulent preparations from appearing, but there seems too large a loophole here for the employment of unintelligible terms.

The author's own suggestion for dealing with the admitted evil shows the same combination of good intentions and innocent unpracticalness as other parts of the pamphlet:

As to the future of Patent Medicines, it has been suggested that the honest vendor would have no hesitation in submitting, in strict confidence, the composition of his remedy, together with his claims, to groups of medical men acting in the capacity of advertising experts—men who have realized the meaning of professional honesty, and who could pronounce judgement on the worth of the remedy, or suggest lines for improvement. The outcome is obvious; few, if any, worthless preparations would find their way into the market, and in such cases the Medical Council would deal with members countenancing dishonest preparations. Moreover, the Press would be freed from all responsibilities, as to the acceptance of advertisements, when the vendors produced the approval of such men.

The theory is not free from objections, but at all events it would be a vast improvement on the present condition of affairs.

Perhaps Mr. Phillips will now try his hand at persuading, say, half a dozen of the owners of largely advertised curative syrups, coloured pills, and so forth, to come into such an arrangement. It will then be time enough to look round for groups of medical men ready to act in the capacity of advertising experts for such wares.

BRITISH MEDICAL BENEVOLENT FUND.

AT the November meeting of the committee twenty-eight most distressing cases were considered and grants amounting to £300 made to twenty-seven of the applicants. So few contributions have been received during the last few months that to do this it was necessary to draw upon, and, indeed, nearly exhaust, a small fund which has been carefully reserved for such an emergency. The committee, therefore, earnestly appeals for help to enable it to deal with the numerous applications which are certain to be received at the next few meetings.

Appended are particulars of the cases relieved:

1. M.D.Lond., aged 43. After holding responsible resident posts in this country, went abroad and worked up an excellent practice, but two years ago had an attack of hemiplegia, and is now quite incapacitated. Two children, aged 10 and 9, at present being looked after by a relation. Has a small income, but it is insufficient for present unavoidable expenses. Voted £6.

2. Wife, aged 61, of L.F.P.S.Glas., who is at present acting as ship's surgeon. Applicant lets lodgings, but in her husband's absence has unavoidably got a little behind with the rent. Voted £2.

3. Widow, aged 46, of M.R.C.S.Eng. Quite unprovided for at death of husband nearly twenty years ago, and finds great difficulty in supporting herself as a maternity nurse. Relieved four times, £46. Voted £12 conditionally.

4. Widow, aged 53, of L.R.C.P., L.R.C.S.Edin. Quite unprovided for at recent death of husband and the small sum obtained for the death vacancy was swallowed up by debts. Endeavours to support herself by taking boarders, but at present has only one paying a small weekly sum. Voted £10.

5. Widow, aged 40, of M.D.Durham. Has been acting as a companion but is temporarily in a state of health which necessitates a complete rest. Voted £12.

6. Widow, aged 62, of M.R.C.S. Dependent on an annuity of £10 and 5s. a week from an old age pension. Children unable to help. Voted £6.

7. L.R.C.P.Edin., aged 52. Used to have a fair practice in London, but for the last five or six years has been in very bad health and is now quite destitute. Hopes to shortly obtain a ship's surgeoncy. Voted £5.

8. Widow, aged 74, of M.D.Lond. Entirely dependent on two small annuities and requires help to obtain the small comforts necessitated by her age. Relieved five times, £31. Voted £5.

9. Daughter, aged 60, of late L.S.A. No income; tries to support herself by letting lodgings, but has been incapacitated for a few months as the result of an accident. Relieved twice, £24. Voted £12.

10. Wife, aged 65, of L.R.C.P. Was deserted seven years ago through no fault of her own, and is entirely dependent on this Fund and the Distressed Gentlefolks' Aid Association. Suffers from chronic bronchitis, and is therefore unable to support herself. Relieved three times, £36. Voted £12.

11. L.R.C.P.Edin., aged 54. Has been quite incapacitated for several years by spastic paralysis, and is dependent on an aged mother who can ill afford to help. Relieved six times, £72. Voted £12.

12. Widow, aged 53, of M.R.C.S., L.S.A. No income, and health too feeble to permit of any regular work. No children. Relieved six times, £68. Voted £12.

13. Widow, aged 50, of L.S.A. No income, and dependent on this Fund and a son earning only 17s. a week. Is blind in one eye and nearly so in the other. Health very feeble. Relieved six times, £70. Voted £18.

14. Daughters, aged 58 and 53, of late M.R.C.S. Endeavour to support themselves by needlework, but are in feeble health. Relieved six times, £74. Voted £20.

15. Daughters, aged 60 and 51, of late M.R.C.S. Live in a small house which they own and take boarders, but have had a very bad season. Relieved once, £10. Voted £18.

16. Daughter, aged 59, of late M.D.Lond. No income; lets lodgings. Relieved 27 times, £202. Voted £6.

17. L.R.C.P., L.R.C.S.Irel., aged 64. Was obliged to give up a practice in the North of London on account of ill health, and is now quite incapacitated and without means; slight help from a sister-in-law. Relieved once, £18. Voted £18.

18. Widow, aged 62, of late M.R.C.S. Income £12 a year; children only able to give very slight help. Relieved once, £12. Voted £12.

19. Widow, aged 65, of M.R.C.S., L.R.C.P. Supported herself for some years as companion, etc., but is now only able to earn a few shillings a week by needlework. Relieved once, £12. Voted £12.

20. Widow, aged 65, of M.R.C.S., L.S.A. Supported herself for twenty-four years, but is now unable to obtain a suitable post. Relieved twice, £24. Voted £12.

21. Daughter, aged 58, of late L.R.C.P. No income; very deaf, and otherwise unfit for any employment; dependent on a sister who has to earn her living. Relieved five times, £56. Voted £12.

22. Daughter, aged 63, of late M.R.C.S. Is not physically strong, and gives her services as housekeeper in return for a home, but receives no salary. Relieved twice, £24. Voted £12.

23. Daughters, aged 46 and 38, of L.S.A. Both physically incapable of earning a living; the elder has recently obtained a pension of £21 per annum; the younger is entirely dependent on her mother, whose income is very small. Relieved six times, £72. Voted £6.

24. Widow, aged 69, of L.R.C.P.Edin. No income; children do not help; eyesight failing. Relieved three times, £36. Voted £12.

25. Widow, aged 61, of late M.R.C.S. Health very indifferent, and only income 7s. a week contributed by her sons. Relieved twelve times, £135. Voted £12.

26. Daughter, aged 56, of late L.S.A. Eyesight defective and chronic ill health, which makes any continuous employment impossible; slight help from friends. Relieved nine times, £92. Voted £12.

27. Daughter, aged 52, of late L.R.C.P. Nursed both mother and father during illnesses which lasted many years, and is now without means and unfitted to earn a livelihood. Relieved twice, £24. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, W.

BOARD OF EDUCATION.

SECOND ANNUAL REPORT.

(Continued from p. 1788.)

PHYSICAL CONDITIONS.

Ringworm.—Examination of the statistics received from all parts of the country indicates that, independently of variation in the fungus, there is less uniformity than is generally supposed in regard to the degree of contagion, incidence, and development of ringworm. As for prevalence, routine examination shows a proportion of 1 ringworm child in 130 children in county areas, and in boroughs 1 in 165. It is impossible at present to lay down any uniform plan of action in regard to control, but any authority intending to take serious steps in the matter must (1) see that all children suffering from disease are detected; (2) promptly exclude such children; (3) refuse to admit any child excluded until it is cured, or at least free from contagion; (4) strictly supervise all new admissions and examine all children readmitted after prolonged absence. The possibility of establishing special classes for children suffering from ringworm should not be overlooked. In respect of treatment, *x* rays are steadily superseding all other forms of treatment.

Adenoids.—There is increasing evidence that the serious harm brought about by neglected nasal obstruction is widespread, though it is not everywhere equally prevalent. It is urgently necessary that in all educational areas steps should be taken to secure both the treatment of the children affected and the prevention of the development of the disease. The latter object necessitates the application of educational methods both in the home and in the school. Suitable and regular treatment, the avoidance of all coddling, fresh air by day and night, adequate sleep, and healthful exercise—particularly breathing exercises—will go far to prevent the conditions which lead to enlargement of the tonsils and the development of adenoid growths. Continual oversight of affected children by the medical officer is necessary. Slight cases should be scheduled as abnormal, and should be re-examined at intervals and special attention paid to them by the class teachers when breathing exercises are being practised. It should always be recognized that the surgical removal of adenoids is only the beginning of treatment.

Defective Hearing.—Slight as well as marked defects in hearing should receive attention; left untreated they may become permanent and increase. Children with otorrhoea, the result of recent scarlet fever or diphtheria, should be excluded. A good many medical officers appear to be paying much attention to the subject of deafness, using the "forced whisper" as a test. The opinion seems to be held that this should be heard by normal children at a distance of from 15 to 20 ft.

Defective Vision.—Full and carefully compiled returns are coming in from school medical officers in many districts, but it is evident that in some areas the need of testing vision with care and precision is insufficiently appreciated. When the preliminary testing is undertaken by a teacher or school nurse, the medical officer must satisfy himself that the conditions in which the work is being done are satisfactory.

Heart Disease.—Heart disorders of rheumatic origin appear to be revealed in a great many cases when search is made, but careful inquiry is necessary, since in children the familiar symptoms of rheumatic fever are absent in the majority of cases. A number of medical inspectors consider that "dilated heart" due to physical overstrain is much commoner than is generally supposed, and the work out of school hours is sometimes a factor.

Tuberculosis.—Classification of cases of tuberculosis has been more uniform on the whole than it was last year, so that the results are perhaps more comparable. The returns to hand relate to 683,715 children, and analysis of them shows that 0·75 per 100 present evidence of tubercle in one form or another. As for phthisis, much work is being done in detecting cases of this disease and in dealing with its causes in the children examined; but great difference of opinion on the subject exists, and will doubtless continue to do so until more reliable methods and standards of diagnosis are introduced. If phthisical children are excluded from school, the cases must be followed up.

GENERAL SANITATION.

The percentage of schools unprovided with satisfactory heating arrangements is regrettably high; so, too, is the proportion of cases in which old-fashioned desks are used. Medical officers will no doubt continue to urge on their authorities the advantage of properly warming school rooms and of securing proper desks and forms. Defects in the cloak rooms vary greatly, but a common one is such a lack of ventilation that the atmosphere is offensive. In the newer schools there is commonly an insufficiency of pegs, and a bad arrangement of them. There should be a minimum of 12 in. between any two pegs, and rows thereof should not be placed directly one above the other. All cloak rooms should have some means of drying clothes. The state of many playgrounds is deplorable. When the whole surface cannot be made impervious, a pathway should be made across it from the road to the school entrance, and a portion of the playground suitably prepared for use during physical exercises.

FOLLOWING UP.

Since the primary object of medical inspection is not the compilation of statistics and the cataloguing of defects, but the amelioration of the latter, systematic "following up" is essential to wise and economic administration. The steps necessary are (1) to inform the parent of any defect; (2) to make inquiries as to whether a remedy has been obtained; (3) when action has not been taken, to ascertain the reason; (4) to take steps to remove obstacles in the way of treatment, whether due to poverty, neglect, or absence of necessary facilities; (5) to re-examine all defective children at a reasonable interval to ascertain whether any change has occurred.

The presence of parents tends to prolong examinations, and is therefore inconvenient, but in all essential connexions is of the greatest value. It is natural and fitting that parents should be present on such an occasion as the medical examination of their children, and they should be encouraged to attend in all possible ways. Within not more than three months steps should be taken to ascertain what improvements have resulted from bringing any defect to the knowledge of the parent. In obtaining results, the influence of the teacher is very important. The school nurse also plays a useful part; whether it is better to employ a district nurse or a whole-time school nurse is a matter of dispute. The services of the school attendance officer can also be enlisted in "following up." When children are absent they are generally absent on medical grounds, and for this reason alone intimate association between the medical and attendance departments is desirable.

The work of the foregoing individuals will usually need to be supplemented by the services of voluntary helpers associated together as children's care committees. Such committees are of indisputable value (1) in following up medical inspection, (2) in the right and wise administration of arrangements for the provision of meals, (3) with reference to the employment of children when they leave school, (4) the after-care of the feeble-minded, and (5) work in relation to recreation and play centres, vacation schools, and country holidays.

Finally, all the work indicated must be tested by re-examination, the children re-examined being all those who at the routine examination have been found in any way defective, and not merely those deemed to require supervision as distinct from treatment commonly so called. The reports from the country, as a whole, show that much is being done in the matter of "following up."

MEDICAL TREATMENT.

Much space is devoted to a consideration of the principles underlying systems of supplying medical treatment, a problem which, it is stated, has begun to be considered by local education authorities. The only duty imposed by the Education Act of 1907 is that of inspection, while provision of treatment is merely optional, and in all cases must be sanctioned by the Board itself. Before treatment can properly be undertaken the organization of the work of medical inspection must be consolidated and mature conclusions reached as to the precise degree and character of the requirements of the area, both immediate and ultimate. A broad conception should be applied to the term "treatment." Extraction of a decayed tooth is treatment; but so, too, is

suitable adjustment of each child's education to its physical capacity. Also to be regarded as treatment, and as even of more importance than the medical treatment of individuals, are general measures applied to whole schools, such as securing good lighting and ventilation, and the prevention of overcrowding, and educational overpressure. Physical exercises come into the same category.

Local authorities must, as far as possible, utilize existing machinery, even though not ideal in character, before endeavouring to create new agencies of amelioration. They must aim at that economy which is obtained when local authorities co-operate with voluntary agencies and endeavour to utilize the responsibility of the parent. With few exceptions, the local authorities are falling in with these ideas and following the Board's advice that they should refer all cases in the first place to private medical practitioners, the school medical officer reporting to the authority his findings in respect of individual children, the authority communicating these findings to the parents, and the duty of obtaining adequate treatment being primarily left to the parent.

Adequate Treatment.

For certain conditions adequate treatment can rarely, the Board considers, be expected from an ordinary general practitioner—for instance, *x*-ray treatment of ringworm, conservative dentistry, surgical operations on the throat, and treatment of suppurating ears—but what medical men cannot always supply as units they can frequently supply on a co-operative basis, and it is in this direction that much future work must lie.

Neglected and Necessitous Children.

For neglected children persistent following up is the right course to adopt; when this fails, prosecution under local by-laws regarding school attendance and under the Children's Act is still available. Necessitous children can, if necessary, be dealt with under the Poor Law, the Local Government Board being prepared to make special arrangements for children found to require specialized treatment. During the past seventy years the Board has frequently approved of guardians contributing to voluntary hospitals in order that the poor may obtain adequate treatment without payment. A subsidy from a local education authority to a hospital is therefore, it is claimed, not a new departure.

HOSPITAL SCHEMES.

In some twenty towns the Board has now given permission to local authorities to make contributions to hospitals out of the rates by way of securing the treatment desired. This course, though it has exposed the Board to some criticism, is claimed to be receiving increased support from public opinion. These hospitals, it is urged, were established, and are maintained, for the medical relief of the poor, and the fact that the State has called upon local authorities to organize machinery for detecting ailments among children does not alter the claim of those children upon the institutions in question. On the other hand, the Board recognizes that the extent to which that claim is exercised is now sometimes so increased that hospitals cannot be expected to undertake the work without increasing their professional staff. For this reason the Board, whenever it has been requested by local authorities to do so, has always sanctioned the making of appropriate remuneration to the members of a hospital staff actually employed in carrying out treatment arising out of the establishment of medical inspection. The Board, however, is not in a position to insist that payment shall be made, or that it shall be adequate.

Difficulties in Hospital Schemes.

In discussing the scheme of medical treatment adopted by the London County Council certain difficulties inherent in hospital schemes are described. Among these are the facts that hospital treatment is unnecessary for many of the ailments of school life, and for others is inappropriate or incomplete. Many ailments demand a continuity of attention and supervision which cannot well be undertaken in an out-patient department and are alien to its spirit. To secure the best effects the actual process and manner of treatment should in itself be educational, both to the child and its parent. Hospitals could no doubt adapt themselves to the necessities of school practice but it would require considerable effort on the part of institutions which, as a rule, have other purposes to fulfil. In any hospital scheme, moreover, there must be a certain amount of leakage, the children told off to attend hospitals either not doing so, or primary treatment being received, but "following up" not occurring. It cannot be too clearly understood that medical inspection, the work of care committees, and medical treatment are parts of one and the same enterprise. More especially must there be intimate relations between those who treat and those who inspect. The whole undertaking must be worked as one piece of machinery.

So far as London is concerned, the distance between children's homes and hospitals in some areas creates further difficulties. The hospital scheme has not yet had a complete trial, and possibly in the end some composite scheme will be found best fitted to the needs of London. The arrangements at Norwood, Hampstead, and Wandsworth, by which groups of local medical men undertake all treatment, are mentioned as interesting, but are not otherwise discussed.

SCHOOL CLINICS.

The establishment of school clinics has been authorized in eleven towns. Generally speaking, the Board has withheld its sanction unless the local authority was able to show, among other things, that the circumstances or necessities of the area called for the establishment of special machinery. One advantage of a school clinic is that it makes more possible the linking up together of an administrative medical and educational machinery.

DENTAL TREATMENT.

Dental disease among school children is so prevalent that no authority can possibly attempt to grapple with it forthwith and as a whole. Its first effort should be to deal with children at the six-year molar period, or aged from 6 to 8 years. To establish a dental clinic a special building is not necessary; it would suffice to adapt two rooms for the purpose. The equipment of these rooms need not cost more than £30, nor materials and upkeep more than £50 per annum; and one dentist working five days a week, or several private part-time dentists sharing the work, may be expected to deal with a school population of 3,000 to 4,000. In any dental scheme the factor of the willingness or the unwillingness of the parent is of primary importance.

SPECIAL SCHOOLS.

The number of special schools for the blind, deaf, and mentally and physically defective children increased last year by ten. They provide altogether for 19,161 children and include seven open-air schools, of which one, that at Bradford, remains open throughout the year.

PHYSICAL TRAINING.

The Board attaches much importance to physical training, not only as organized exercise but as a form of treatment, and devotes a long chapter to its consideration. It introduced a definite syllabus last year, because ordinary teachers are not sufficiently expert to select exercises for themselves. The exercises are physiological and designed to cover the whole period of school life. Exercises of a military kind are intentionally excluded as unfit for children. The two-fold contribution from the school of a State to its army should be strict discipline coupled with healthy physique. It cannot well be more than that, and it should not be less than that; hitherto it has been much less.

CONCLUSION.

In concluding his report, Dr. Newman points out that, notwithstanding all difficulties that have had to be met, a national system of medical inspection and supervision of school children may be regarded as now having been established throughout England and Wales. The work has only begun, but thousands of children are now receiving the consideration, the treatment, and the training which school children have previously lacked, and for a lack of which they failed, with irretrievable loss both to themselves and to the State.

The appendices supply a list of school medical officers, stating the number of children in their charge, and information as to prosecutions by local authorities, the findings of the London Education Committee, and other doings of this body, and give schedules for the examination of school children for mental defect, and other like matters.

LITERARY NOTES.

PROFESSOR GILBERT, author of a treatise on medicine, a series of books for the degree of Doctor of Medicine, and a library of therapeutics which have achieved success, has started a new weekly journal, entitled *Paris Médical*. In this enterprise he has secured the help of the most active of his collaborators in the works that have been mentioned. The *Paris Médical*, which will comprise 2,064 pages and 500 illustrations annually, is published by J. B. Baillière and Son, 19, rue Hautefeuille, Paris. The subscription for foreign countries is 15 francs a year. The first number, which appeared on December 3rd, contains an interesting historical account of clinical teaching in the Hôtel Dieu, with numerous illustrations.

Paludism is the title of a new publication which is to be the organ of the Central Committee for the Study of Malaria in India. The members of this committee consist of Lieutenant-Colonel J. W. T. Leslie, I.M.S., Lieutenant-Colonel D. Semple, R.A.M.C (ret.), Major S. P. James, I.M.S., and Captain P. R. Christophers, I.M.S. The first issue, which is dated July, 1910, consists of fifty-three pages, including an editorial note, giving details of the work of the Malaria Committee.

We have received the first number of a new periodical, entitled *Zeitschrift für Kinderheilkunde*. As its name imports, it is devoted to diseases of children. The editors are: Drs. H. Finkelstein and L. Langstein, of Berlin; M. Pfaundler, of Munich; C. von Pirquet, of Breslau; and B. Salge, of Freiburg in Baden. The publisher is Julius Springer, of Berlin. The new periodical, which is well printed on excellent paper, contains, among other communications, an article by Dr. Rudolf Neurath, of Vienna, on the significance of calcium salts in the organism of the child in physiological and pathological conditions; one by Dr. Fritz Rolt, of Berlin, on the physiological decrease of weight in newborn children; one by Drs. M. Karasawa and B. Schick on the period of absorption of antidiphtheria serum administered hypodermically.

The *Journal of Genetics*, the first number of which has just appeared, is described as a periodical for the publication of records of original research in heredity, variation, and allied subjects. It will also, from time to time, contain articles summarizing the existing state of knowledge in the various branches of genetics. Adequate illustration will be provided, and, where the subject-matter demands it, free use will be made of coloured plates. The journal will be issued in parts as material accumulates, and a volume, appearing, as far as possible, annually, will consist of four such parts. Papers for publication may be sent to one or other of the editors—Mr. W. Bateson, Manor House, Merton Park, Surrey, or to Professor Punnett, Gonville and Caius College, Cambridge. Other communications should be addressed to the University Press, Cambridge. The first number contains, among other papers, one by Mr. L. Doncaster and Mr. F. H. A. Marshall, on the effects of one-sided ovariotomy on the sex of the offspring. The subscription price for a volume is 30*s.* net (post free), payable in advance; separate parts, 10*s.* net each. Subscriptions may be sent to any bookseller, or to Mr. C. F. Clay, Manager, Cambridge University Press, Fetter Lane, London, E.C.

What to do with back numbers is a problem that presents itself with ever-increasing insistency to the attention of every subscriber to a journal, whether scientific or literary. Unbound they are litter of the kind most distressing to a tidy housewife; even when bound they accumulate slowly but surely, invading all available shelf room. Yet those who take a living interest in medical science, especially if they live at a distance from libraries, hesitate before they have recourse to the drastic methods of Omar in dealing with the Alexandrian library. They are, therefore, generally offered to medical libraries, and as these grow more numerous the disposal of back numbers becomes easier. In these collections we hope they will find a comfortable refuge. We sympathize with the feelings of Dr. C. D. Spivak, of Denver, Colorado, who was formerly editor of *Medical Libraries*, a bimonthly periodical especially intended for medical libraries, which came to the end of a spasmodic and irregular career in 1902. We learn from the *Boston Medical and Surgical Journal* that Dr. Spivak offers to send to all medical librarians and all who may be interested in medical journalism, complete sets of vols. ii, iii, and iv, and incomplete sets of vols. i and v, of the defunct periodical for the asking. He adds to this offer the following touching appeal:

> All the sad editor desires in return is that these his dear departed ones be reverently laid out, decently shrouded, adequately coffined, properly epitaphed, securely inhumed, and unostentatiously gathered unto their fathers.

The *Gazette Hebdomadaire des Sciences Médicales* of Bordeaux, of October 2nd, published an interesting note on the first ages of medicine in that ancient city, a communication presented not long ago by Dr. Durodié to the local Society of Medicine and Surgery. According to the lecturer, the first physicians who ever practised in that part of France were the priests and chieftains of the various Gaulish tribes. These for centuries were the sole depositaries of the medical knowledge of the clan, which was, however, anything but extensive. The pharmacopoeia of these early practitioners seems to have consisted of a few drugs made from herbs and simples, and their only idea of treatment appears to have been the dosing of their unhappy patients with these rude medicines, accompanied by incantations and religious rites in honour of their gods. The conquest of Gaul, however, changed this simple and primitive system, and under the Roman rule a flourishing school of medicine sprang up at Bordeaux, whose scholars went forth to spread its fame throughout the ancient world. The University of Bordeaux, or Burdigala, to give it its ancient name, was for a long time the most famous seat of learning in Gaul, and its reputation as a medical school was such as to attract students from every part of the Roman Empire. Amongst the "Bordelais" who studied medicine at the university, many went abroad, to Rome and other cities, to practise, but a considerable number remained at home; and though in the majority of cases all trace of them has been lost, the names of a few have come down to us on their tombstones. The most ancient of these monuments was erected to a doctor, whose name cannot be deciphered, who died at the age of 51, in the days of the Roman Empire. The inscription, which runs as follows, was found in the year 1756:

D.M.
MSNV
MEDICI
DE. ANLI
SE PVL
II ET

It seems a pity that the most important part—the name of the man who lay beneath the stone—should be precisely that which is too much damaged to read. The rest has been filled out. "D(iis) M(anibus) . . . MSNU . . . MEDICI DE(functi) AN(norum) LI (hic) SEPUL(tus) E(s)T." Another monument, found over a hundred years later, dates from the same period, but is much more illuminating. It was erected over the grave of the first known physician of ancient Bordeaux, Flavius Pollianus Eburius, who died at the age of 36, and who, from his name of "Eburius," must have been a native of Gaul. His epitaph is as follows:

M.
FL.POLLIANO EBVRIO M
ICODEFVNCTOANN
M.XXXVI. VALERIACON
ONENDVMCVRAVIT.

Which being interpreted means:

(D(iis)) M(anibus) FL(avio) POLLIANO EBURIO, M(ed)ICO, DEFUNCTO ANN(oru)M XXXVI. VALERIA CON(jux) (p)ONENDUM CURAVIT.

The names of many of the later physicians of Bordeaux are well known, and some of these men became famous, not only in their own profession, but in politics or literature as well. Such were Eutropius, a native of Aquitaine, and a well-known historian, who accompanied the Emperor Julian in his expedition against the Persians, and who lived to become a Roman senator; Julius Ausonius, who was as deeply learned in philosophy as in medicine, and who occupied the post of prefect of Illyria, besides becoming a senator of Bordeaux and of Rome; Vindicianus, whom St. Augustine calls the greatest doctor of his

century. The medical works of many of the early Bordelais physicians have unfortunately been lost, but the books of Quintus Serenus Sammonicus, who was assassinated in 222 A.D. by order of Caracalla, have been preserved and have frequently been reprinted. Sammonicus was extremely superstitious, especially with regard to his remedy for malarial fever, which consisted of wearing round the neck a linen thread from which was hung a paper on which was written the mystic word *Abracadabra*, the letters of which were arranged above in the form of a cone. It is interesting to learn that the Jews of this period had a similar method of curing the same disease, the only difference being that they pinned their faith to the word *Abracalan*, which was written on the amulet. Marcellus Empiricus, who flourished in the fourth century, and wrote a large number of books on medicine, was equally superstitious. He seems, however, to have doubted the efficacy of his mysterious prescriptions, for in one of his works, which is dedicated to his children, he advises them in the case of serious illness to disregard the advice it contains and call in the doctor. He himself had a firm belief in the following method of expelling a foreign body from the eye. The patient must hold the injured organ open with three fingers of the left hand on which there are no rings, and spit thrice upon the ground, saying, "Rica, rica, soro," when the offending object will fall out of the eye upon the ground. It is believed that these three words are derived from some unknown Gaulish or Celtic dialect of which no trace has as yet been discovered.

The November number of *Travel and Exploration* contains four articles, dealing respectively with Macao, Tripoli, New Zealand, and the Arctic regions, while in the *Exploring World* there are some interesting notes on Papua by the Governor, Mr. G. H. P. Murray. In Mr. John Horne's description of his trip to Tripoli he gives the following account of the Arab leech:

Close by the Arab doctor had pitched his little tent. I looked in vain for pills and powders; his only stock-in-trade seemed to consist of paper and ink and sand to dry it with. Was he a faith healer? Should I witness a miracle, I wondered. But before long my doubts were set at rest. The doctor's method was simplicity itself. Where we go to a specialist, pay a guinea, and get a prescription made up by the chemist, the Tripolitan patient pays a halfpenny—swallows the prescription, paper, ink and all, and goes home—let us hope, vastly the better for it. As I watched, a woman brought her little girl for treatment. The doctor made her sit down before him, and recited a long incantation for all the world like an indifferent Scottish minister "putting up" an extempore prayer. From time to time he touched the girl's bare breast with two fingers of the left hand. Then the prescription was solemnly written, and as solemnly eaten, by the small patient—a copper coin changed hands—and mother and daughter went their way smiling, and perhaps—*chi lo sa?*—cured. Should I propose myself as a "case"? I was in excellent health, but that could make no difference. The leech, however, seemed to divine my infidel intentions; under his disdainful stare my courage failed me, and I fled.

Another interesting paper is Mr. C. M. Enriquez's description of a tour in Western Thibet. Among other things, he gives an account of polyandry as practised by the Ladakhis, who are Buddhists belonging to the Mongolian branch of humanity. The system is deliberately employed as a means of keeping down the population. Speaking of the Ladakhis, he says:

They are, in fact, slit-eyed, pig-tailed Thibetans—a happy, cheery, and well-to-do people. They practise polyandry, by which system a maid takes unto her as husbands a family of three or four brothers, and one or two strangers besides. Her children refer to her husbands as their "Number One" or "Number Four" father, there being no certainty to which husband they owe their existence. No doubt to Western ideas such a system appears outrageous in the extreme, but in truth it is a means by which Nature keeps within bounds the population of a country which is utterly destitute of vegetation, except for an oasis of crops here and there round a village. The lowest valleys of Ladakh are 12,000 feet, and Ladakhis who venture to such low-lying places as Kashmir (which is 5,000 feet) contract fevers and die. A certain part of the population live at 16,000 feet above sea level, and dwell at a higher altitude than any other people in the world. An outlet for a growing population by emigration is thus impossible. The result is that the population cannot be allowed to increase.

The population question is greatly to the fore just now among us; have neo-Malthusians seriously considered the advantages of polyandry?

LEGISLATION AFFECTING THE MEDICAL PROFESSION.

A SPECIAL meeting of medical men resident in the electoral division of Rossendale was held on Wednesday, November 30th, at 3.45 p.m., at the Queen's Hotel, Rawtenstall. There was a good attendance. Dr. J. BROWN, of Bacup, was called to the chair, and Dr. Falconer, of Stacksteads, was asked to act as secretary.

The CHAIRMAN stated that the meeting was convened to discuss the question of State sickness and invalidity insurance, and of coroners' law and death certification, as affecting the medical profession.

Several members who had had experience in other parts of the country of club and contract practice spoke of its being most unsatisfactory.

The following resolution was then proposed by Dr. BROOMHEAD, of Haslingden, and seconded by Dr. EDWARD, of Rawstenstall:

> That the principle of limited payment for unlimited medical services has, to a large extent, proved most unsatisfactory to the patients and to the doctors. This meeting, therefore, is strongly opposed to this principle, and urge on the Government in any future legislation in the proposed State Sickness and Invalidity Insurance Bill that there shall be freedom of choice of doctor by the patient, and that the principle of payment shall be for medical services rendered.

This was carried unanimously, and copies were ordered to be sent to the Right Hon. Lewis Harcourt, the Right Hon. Lloyd George, and the Central Council of the Brititsh Medical Association.

Dr. MACILRAITH, of Rawtenstall, then proposed, and Dr. HARRISON, of Haslingden, seconded:

> That the proposed Coroners' Law and Death Certification Bill should be amended as follows: "That the body be viewed within three days of death having taken piace, and that there be a minimum fee and mileage for the certificate."

This was also carried unanimously. The resolution was ordered to be sent to the Right Hon. Lewis Harcourt, Sir W. Collins, and the Central Council of the British Medical Association.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

INDIA.

THE deaths from plague in India during the months of July, August, September, and October (to the 22nd), were distributed as follows:

July	3,580
August	4,768
September	8,405
October (up to the 22nd)	14,075
	20,828

The total number of deaths from plague from January 1st to October 22nd amounts to 381,460, reported from all India and Burma. Of the 20,828 deaths which occurred between June 1st and October 22nd, 9,651 occurred in the Bombay Presidency, 2,441 in the Punjab, 1,037 in Bengal, 1,951 in the United Provinces, 4,017 in the Central Provinces, 2,614 in Mysore, 4,280 in Raputanja, 1,268 in the Madras Presidency, 1,793 in Hyderabad, 800 in Burma. In Central India the deaths were few, but between September 1st and October 22nd there were 1,558 deaths recorded.

PERSIA.

Plague prevailed at Bushire in May, when 43 cases of plague and 34 deaths were recorded. Since May the outbreak has practically ceased.

HONG KONG.

During the weeks ended August 20th and 27th 1 case of plague was recorded during the latter week. Hong Kong was declared free from plague on September 10th, 1910.

CHINA.

At Amoy and the district around plague prevailed during the summer of 1910 more severely than in any previous year. In Shanghai a case of plague was reported in September; rats have been infected with plague for the past two years in Shanghai.

MAURITIUS.

From August 8th to November 10th, 1910, the fresh cases of plague in Mauritius numbered 204, and the deaths from the disease amounted to 121. Plague has increased during the autumn months to a serious extent; during September the fresh cases numbered 36, and the deaths 25; during October the fresh cases amounted to 146, and the deaths to 82. Between January 1st and November 10th, 1910, the fresh cases of plague in Mauritius numbered 339 and the deaths 234.

British Medical Journal.

SATURDAY, DECEMBER 10TH, 1910.

THE MEDICAL ASPECTS OF THE PARLIAMENTARY SESSION.

THE Parliament elected in January last and dissolved so recently will be remembered less for the work it accomplished than for its short and troubled career. It never had a fair opportunity of showing its legislative capacity. It was opened with the shortest King's speech on record, and with the briefest programme of legislation; for only two subjects were mentioned, namely, Finance and the Relations between the two Houses of Parliament. Till those two contentious matters were settled, it was clear at the commencement of the session that no progress in general legislation could be accomplished. The output of Parliament, as is shown in our record of the session (page 1879), has, therefore, been comparatively small and uninteresting; nevertheless many questions of importance to the profession engaged from time to time the attention of our legislators. As soon as the difficulties connected with the Budget of 1909 were settled by the Lords accepting the proposals of the Government, the resolutions on the relations of the two Houses were brought forward and carried in the Commons after several days' debate. After this most of the other Government time up to the spring recess was necessarily devoted to the Financial Estimates of the year.

When the recess was reached on April 29th, there had been no time for debates on social questions except in connexion with private members' bills. One notable debate did take place early in April on the second reading of the Prevention of Destitution Bill. This measure opened up the whole question of Poor Law reform, and marked the first move in the parliamentary campaign organized in the interests of the Minority Report. The discussion was almost of necessity academic, for the mover of the second reading, realizing the impossibility of carrying his bill, announced early in his speech that he did not intend to proceed beyond the second reading stage. The discussion revealed some interesting facts. First it was clear that the advocates of the Minority Report had strong and well-organized support in the House of Commons, especially among the Labour Party. It was also evident that both the Prime Minister and the Leader of the Opposition, while favourable to well-considered changes in Poor Law administration, were firmly convinced that great and remarkable success had attended Poor Law work, and that revolutionary changes would be resisted. The Prime Minister said, "the boards of guardians will die very hard." The main defect of the speeches in our view was the absence of any adequate statement of the medical aspect of the proposed reforms of the Minority Report, and their far-reaching effects on the character, authority, and social relations of the medical profession. In the new Parliament that question will have to be fought out in many a long discussion, and we trust the future status of the general practitioner will, in the interest of the public, be fully and adequately guarded. It must be carefully and deliberately considered if far-reaching evils are to be avoided.

The session, which had really accomplished little up to the spring recess, was destined to run the remainder of its course under unique and paralysing conditions. The lamented death of King Edward and the accession of King George broke in upon the holidays and upset all arranged plans. Parliament, indeed, did not meet again for ordinary business till June 8th. The truce as regards political controversy which had been observed during the national mourning was prolonged through the summer sittings by the institution of a Conference to consider the constitutional question. The proceedings of both Houses in consequence were more or less of a routine character, until Parliament assembled after the failure of the Conference. There were, nevertheless, many topics connected with public health before the Chambers. The Census Bill, which really ought to have been passed last year, led to discussion in both Houses. Under the Act as now passed some improvements will be made in the form of the Census returns which, it is expected, will facilitate inquiries in connexion with vital statistics and public health. The fall in the birth-rate of 8 per 1,000 in some fifty years suggests some serious reflections which the Census may answer by giving figures bearing on the fertility of marriages and the ratio of infant mortality. The existence of overcrowding will also be disclosed by the returns showing the rooms occupied by each family in tenement dwellings. We observe with satisfaction that Mr. Burns apologized for not including a quinquennial numbering of the people in the Act. He said it would cost £100,000 to £185,000, and the Treasury could not find the money. This is a penny wise and pound foolish policy, for we hold that a permanent Census office would save much money now wasted on creating a new organization every ten years, and would be of constant use to the Government in the conduct of many inquiries connected with vital and other statistics that have to be undertaken by the several Government departments under special arrangements from time to time. The necessary expenditure ought not to stand in the way in the case of the richest country in the world when it is undertaken with advantage by younger and poorer communities.

If we had only created a department for the Census and vital statistics when the last Census was taken, it would have proved of incalculable value to the Government in their investigations in connexion with the proposed sickness and invalidity insurance. This is a very complex and difficult problem, and although the Government is said to have its bill ready and is pledged to bring it forward at the earliest possible date, it is almost certain that unforeseen difficulties and dangers will arise when the details of the scheme come under public criticism.

The Government made two unsuccessful attempts in the Lords to amend the Midwives Act of 1902 on the lines of the report of the Departmental Committee. The main objects of amendment were the constitution of the Central Midwives Board and the payment of fees to medical practitioners called in by midwives. The chief point of dispute, when the second bill was in committee, was whether the fees should be paid by the guardians or by the local authorities. The Government tried to meet the objection to the

guardians by proposing that the payment of fees should not be considered as ground for any pauper disqualification. This was eventually accepted in the Lords after a strong protest, but the bill had to be dropped on account of the sudden closing up of the session previous to the dissolution.

On another occasion in the Upper Chamber some instructive remarks were made on the provision of ambulances for the Territorial Force and the certification and instruction of nurses for the work. The British Medical Association was repeatedly referred to in this discussion in connexion with the demand for payment to medical men holding the classes for teaching. The Water Supplies Protection Bill and the Education Physical Training Bill, both initiated by Peers, also gave rise to comments of interest to hygienists, and at the later end of the session the best statement made in connexion with the rat plague in East Anglia was given in the Upper House.

In the Commons it was in Committee of Supply that matters of most importance to the profession were brought forward. The unfortunate arrangement sanctioned in connexion with the Prisons Board was referred to in our leader columns at the time,[1] and we would still press upon the Home Office the necessity of reverting to the arrangements recommended by the Departmental Committee and practically accepted by both sides of the House of Commons and the Government of that day, whereby there should be always a medical member of the Prisons Board. This in any case should be a recognized position to be always continued and not to be evaded by any temporary arrangement. The Local Government Board Vote led to a debate on vaccination, and was notable for a strong defence by Mr. Burns of the Act of 1907, which made conscientious objections easier. The necessity for legislation to secure the purity of the milk supply has been long admitted, and promises of legislation have been made over and over again. This year, like others, has failed to give us the necessary protection, and shown us by the rejection of the milk clauses in the London County (General Powers) Bill that the law cannot be made effective except by Government action. It is hard to understand why there should be this long delay in a matter of such vital importance to public health. The President of the Local Government Board has over and over again admitted the urgency of the question, yet he has failed to pass the necessary law. We would most strongly urge that Parliament should find time, in spite of disputes as to the constitution and powers of the House of Lords, to take up and settle in its earliest days this question so essential to the prevention of tuberculous and other diseases.

There was a very noteworthy attempt at legislation made by Dr. Addison (whom we congratulate on being once more returned to the House of Commons) in connexion with the teaching of hygiene in elementary schools. His little bill had no chance of passing this year, but it was most favourably received, and we hope to see it placed on the statute book in the new Parliament.

The session has done little to advance either medical or sanitary science, but it has not been altogether barren, for medical topics have been constantly before both Houses, and the increasing interest taken by members in sociological questions augurs well for the future. Progress is slow in these matters, but when we look back for the last twenty years, we can confidently say that the influence of the profession in guiding and shaping legislation has steadily grown, and we believe will continue to grow, to the great advantage of the people and State.

[1] BRITISH MEDICAL JOURNAL, April 30th.

SIGHT TESTING IN THE MERCANTILE MARINE.

THE official Report of the Sight Tests used in the Mercantile Marine for the year ending December 31st, 1909, recently issued, contains much interesting matter.

At the Merchant Shipping (Colonial) Conference held in April, 1909, a resolution was adopted urging the Board of Trade to consider the efficiency of the system of sight tests then in force. The Board decided to add two new skeins—a dark purple and a light yellow—to the Holmgren wool test. These additional colours came into use on and after November 1st, 1909. Under the old rule, which consisted of the use of the well-known Holmgren test, 65 candidates failed; 20 of these appealed, with the result that 10 of them passed and 10 were rejected; after the new test came into use, 21 men were rejected, and of these 11 appealed, when 5 of them passed and 6 were rejected; 13 officers already in possession of certificates were rejected on re-examination; 8 of them failed in the form test, and 5 in colours.

Could any report be more lamentable than this, and could a public body stand more fully convicted out of its own mouth?

Let us see what the report really means. In the first place, it shows that under the old Holmgren test 50 per cent. of the rejected men who appealed were normal-sighted (that is, 10 out of 20). With the new colours added, practically 50 per cent. of normal-sighted persons were also rejected (5 out of 11). When these two additional colours were recommended, Dr. Edridge-Green prophesied that, so far from assisting in the detection of colour-blindness, they would probably lead to greater confusion still. Although the figures do not show worse results, it is not fair to contend that 5 wrongful rejections out of 11 is any better than 10 mistakes out of 20; for practical purposes, it means that half were improperly rejected.

In many of the Continental physiological laboratories the Holmgren test is not to be found. Professor Nagel, late of Berlin and now of Rostock, for one, considers it too bad even to give it house room. Yet our own Board of Trade still goes on with it and publish the shocking figures here quoted.

At first sight it may appear that the test excludes not only all men with defective colour sense but a certain proportion of others who have no dangerous defect. If this really were so, the only persons to whom harm would be done are the long-suffering seamen who are at the mercy of the Board of Trade. This, however, is not the case. No fact is better known to workers on the subject than that the Holmgren test, as well as rejecting a number of normal-sighted persons, fails to detect a large percentage of dangerously colour-blind individuals. We read in the same report that 5,942 candidates were successful in the colour test. It would be interesting to know how many colour-blind individuals were included in this number. We venture to say that, were it possible for a skilled examiner to test each of these men by reliable methods, a percentage of dangerously colour-blind men would be shown to have passed

which would be equally amazing to that shown on the other side. The published figures themselves prove the probability of this statement being correct, for on the re-examination of a body of men (numbers not stated) who had previously passed, 5 out of 13 who failed were returned as colour blind. While it is well known that certain grave diseases of the central nervous system may cause colour blindness, as well as other affections of the sight, yet such cases are rare; and it is more than probable that every one of the 5 was really a case of congenital colour blindness previously certified as being normal sighted. It is, however, equally likely that half of them had no defect at all, and that their means of livelihood was taken away from them because the unskilled examiners using discredited tests were unable to know whether their colour vision was correct or not. If no reliable tests existed the hardship to the seamen and the danger to the public would have to be endured; but inasmuch as the work can perfectly well be done by skilled examiners with reliable methods, it is little short of scandalous that the Board of Trade should still employ amateur examiners, and give them unreliable tests with which to conduct this important inquiry.

It is amusing to see it gravely stated in the report that no case of colour ignorance came before the examiners. Of course it did not, for the simple reason that colour ignorance, apart from colour blindness, is non-existent. Would it be possible for a man of adult age who has sufficient intelligence to present himself for examination to be ignorant of the difference between red and green? One might as well expect him not to know the difference between black and white.

A committee of inquiry is at present being held under the auspices of the Board of Trade, and we can only trust that this report will in no uncertain terms condemn the present condition of affairs. It is, however, a pity that none of those workers who have been instrumental in bringing about this inquiry are represented on the committee now sitting.

RATS AND FLEAS.

AN appropriate note was struck at the opening meeting of the Zoological Society, when no fewer than three communications were made dealing with rats and fleas. The popular and scientific interest aroused by the epizootic in East Suffolk in regard to both these animals accounted for the appearance of at least two of the exhibits, but whether their juxtaposition was due to the wisdom of the society's able secretary or to a happy chance we are not in a position to say. We should prefer that the former were the case; and further, we would wish in all such eventualities as the present, where medicine is confronted with difficult bionomical problems, that the Zoological Society, through a recognized authority or authorities, should take the opportunity of making a definite pronouncement on the matter from their point of view. Such would be an excellent occasion for a review of existing knowledge on the subject, which would form an invaluable basis for medical and administrative action. It is imperative that we should have a thorough knowledge of the bionomics of all the animals habitually associated with man, not so much of the domesticated animals, which we can control, but of the large number of other animals such as rats, mice, flies, cockroaches, fleas, and so forth, over which we have little or no control except by a radical change of environmental conditions. The importance of this, we are glad to say, has been to some extent realized by the Local Government Board, but it is astounding to reflect that in the present year of grace we are still in such a regrettable state of ignorance with regard to even a common pest like the ordinary house-fly.

At the same time it does not appear that, however perfect our knowledge in these respects may be, we can ever expect to cope with such animals by direct attack—as, for instance, by random extermination of vermin. The prospects of success are about as promising as those of attempting to depopulate the sea of its fishes. It is a defensive, rather than an offensive, policy that we must adopt, and hygienic improvement constitutes our chief shield. All these pests must be further and further denied access to dwellings, their food supplies must be cut off, and their breeding places eradicated. These lines have been many times indicated before now, but they cannot be too urgently insisted upon. The importance of the biological factor, the living carrier, in the transmission of disease was clearly demonstrated by Houston in his epoch-making opening paper at the Bacteriological Section of the recent British Medical Association meeting.[1] The close association of transmissible disease, not with dead and lifeless matter, but with living beings, man's fellow creatures, involves a striking change of view, but one which has been more and more borne in upon us by the researches of the last few decades. We owe a realization of this perhaps more to the study of tropical medicine than to any other branch. The number of tropical diseases transmitted both mechanically and cyclically by other animals is already large, and additions are continually being made to the list.

The exhibits made at the Zoological Society consisted in the first place of a series of fleas, shown by Rothschild, which included *Ceratophyllus fasciatus*, the common rat flea of this country; *C. londiniensis*, a flea which was first obtained in a house near the Natural History Museum, and has since been met with in various parts of the world, seemingly associated with ships; *Ctenocephalus canis* and *felis*, the dog and cat fleas, and *Ctenopsylla musculi*, the flea of the mouse. All these fleas and many others may occur on the rat. It is interesting to know that *Xenopsylla cheopis*, the commonest rat flea of India and warm countries, has only been met with once in this country, at Plymouth. It was with regard to this flea that most of the work of the Plague Commission in India was done, and it was definitely proved to be a carrier of plague. Whether *Ceratophyllus fasciatus* may play the same rôle in this country remains to be demonstrated, although two successful experimental infections are recorded by the Plague Commission. That it may bite human beings there can be little question. The specific distinctness, denied by some, between the dog flea and the cat flea was reiterated by Rothschild, but to one familiar with the two species this seemed hardly necessary.

The second exhibit, by Pocock, consisted of two very fine specimens of the black rat, *Mus rattus*, and the brown rat, *Mus norvegicus* (olim *decumanus*). It was pointed out that the colour is not a specific feature for brown "black rats" and black "brown rats" are quite common. It is well known, of course, that it is the brown rat which is common in this country. Hitherto it has been generally stated that the familiar

[1] BRITISH MEDICAL JOURNAL, November 12th, 1910, page 1499.

tame rat is a descendant of *M. rattus*, but in his assertion that *M. norvegicus* is the true ancestor, Pocock was supported by more than one authority. The third exhibit, by Minchin and Nicoll, consisted of two larval tapeworms from the rat flea. Not content with biting and annoying the rat, the flea adds to its iniquities by transmitting the plague bacillus, *Trypanosoma lewisi*, and two different tapeworms. It is nearly half a century since the discovery was made that the dog flea served as an intermediary for the common dog tapeworm, *Dipylidium caninum*. Until a year ago no similar case was known, when Minchin found a cysticercoid in a rat flea, which Nicoll, during the course of his work as one of the Research Scholars of the British Medical Association, has since definitely shown to be that of *Hymenolepis diminuta*, an occasional parasite of man. Nine months later a third find was reported from Russian Turkestan in a flea from the jerboa; while most recently Minchin and Nicoll have found a second larval tapeworm in the rat flea, which appears to correspond in every detail with the rat tapeworm, *Hymenolepis murina*. The particular interest attaching to this latest find is that for the last thirty years this tapeworm has been believed to have an unusual life history, shared with *Hymenolepis nana* of man, in having no intermediate host. The possibility, however, of the cysticercoid belonging to some hitherto unknown tapeworm, closely resembling *H. murina*, is not ignored by its discoverers.

If for nothing else, these various exhibits have served a useful purpose in demonstrating the close relation between man and rats in regard to their parasites, both external and internal.

THE REPORT OF THE SPECIAL POOR LAW COMMITTEE.

THE reports of meetings of Divisions and the correspondence columns of the JOURNAL have shown the great interest taken by members in the subject of State sickness and invalidity insurance and other subjects which were dealt with in the special report submitted by the Special Poor Law Reform Committee to the Annual Representative Meeting. Anxiety has been shown to learn when the revised report will be submitted to the Divisions. We are informed that the Committee appointed by the Council to revise the report and issue it to the Divisions has received communications from Divisions and members of the Association which, in its judgement, made it a duty to reopen the consideration of certain important subjects dealt with in the report, especially the question of the relative advantages of capitation payment and payment per attendance which has been so fully discussed in our correspondence columns in recent months. In order that the Divisions may have before them such a complete and impartial analysis of the whole matter as is, in the opinion of the Committee, necessary to enable them to arrive at a sound judgement as to the policy of the Association, the Committee has conferred with Representatives of the Altrincham and Bristol Divisions, and with others considered specially qualified to assist them in framing an adequate statement of every point of view. This process of conference and deliberation has necessarily entailed considerable delay in the preparation of the revised report, and we understand that it cannot now be expected to be ready for issue to the Divisions until after Christmas. It is hoped, however, that the result of this further consideration will be to facilitate the discussion of the subject by the Divisions to an extent which will more than compensate for the delay in placing the report before them, and, having regard to the present position in general politics, it is probable that it will not be necessary for the Association to decide upon its policy at so early a date as at one time was thought possible. We have reason to believe that the Association will be afforded full opportunity of placing its views before the Chancellor of the Exchequer before any decision is finally arrived at by the Government as to the lines upon which its sickness and invalidity insurance scheme shall be framed in so far as it affects the medical profession. An address by the Medical Secretary of the British Medical Association, delivered before the South-Wales and Monmouthshire Branch, in which he discusses, among other matters, State sickness and invalidity insurance and Poor Law reform, will be found in the SUPPLEMENT for this week. With regard to the basis of medical remuneration, Mr. Smith Whitaker said that the difficulties surrounding the matter would be placed fully before the Association by the Special Poor Law Committee, when the relative merits of the two systems—payment by fee per attendance and payment on the basis of capitation—would be fully set out.

PRESENTATION TO MR. C. J. BOND, OF LEICESTER.

A VERY representative assembly of members of the profession was present on December 1st at the Grand Hotel, Leicester, when a presentation of plate was made to Mr. C. J. Bond. The proceedings commenced with an informal dinner, to which nearly ninety gentlemen accepted an invitation, though, owing to the exceedingly inclement weather, several were prevented from attending. The chair was occupied by Mr. C. J. Bryan, the oldest practising member of the profession in the town, supported by Mr. Bond and the President of the Leicester Medical Society, the Chairman of the Leicester Division of the British Medical Association, and the Chairman of the Leicester Medical Union. At the close of dinner the Chairman gave the toast of "The King," and then briefly proposed Mr. Bond's health, reserving further remarks for the subsequent presentation ceremony. Mr. Bond made a short reply. The party then adjourned, and a reception was held in an adjoining room, which was attended by a large number of the wives or daughters of the subscribers. The company was received by Mr. and Mrs. C. F. Bryan, and by Mr., Mrs., and Miss Bond. The Mayoress of Leicester (Miss Vincent) was also present. After coffee and refreshments, and a little music partly contributed by two well-known vocalists belonging to the profession, Mr. Bryan made the presentation. In felicitous terms he spoke of Mr. Bond's career at University College, where he carried off many prizes, and held the appointments of house-surgeon and assistant demonstrator of anatomy. After being house-surgeon at Bedford Infirmary and Leicester Infirmary he joined the staff of the latter institution in 1886 and was now senior surgeon. Mr. Bond would continue to perform the duties of this office though he had relinquished private practice. The Chairman went on to speak of the almost unique position which Mr. Bond held among the medical profession in Leicester and Leicestershire. He counted almost every medical practitioner as a personal friend, and many of them and of their wives and families had been his patients. As a consultant Mr. Bond had won the respect of all by his unfailing tact and consideration. While never neglecting the interests of the patient, Mr. Bond had invariably contrived to increase the latter's confidence in his medical attendant. Mr. Bond's fame extended far

beyond the borough and county of Leicester; it was almost national, and Leicester might think itself fortunate in having had Mr. Bond's services for so many years when London might have claimed him. He had been selected to deliver the address in surgery at the annual meeting of the British Medical Association in Leicester, and had read papers of great value before it, notably at Toronto. Almost every medical practitioner in the district had contributed towards the presentation. Mr. Bryan then stated that it gave him the sincerest gratification to present the articles of plate to Mr. Bond. These consisted of a massive silver tea and coffee service and salver, on the last of which was inscribed: "To C. J. Bond, F.R.C.S., from his medical friends in Leicester and neighbourhood as a token of affection and esteem on his retirement from practice, 1910." Mr. Bond, in acknowledgement, said that whatever he was able to say could only inadequately express his feelings. He wished all to understand that he felt very deeply the kindness of every one of the subscribers. After recalling the memory of colleagues who practised in Leicester when he first came there, but had now passed away or retired, he said his best wish for all his fellow practitioners was that when it became their turn to retire they should have the same assurance of the loyal fidelity of their colleagues as he had had. The characteristic of loyalty was what he wished to insist on that evening. He could assure the younger members of the profession, especially those who were likely to practise as consultants in the future, that loyalty to their colleagues would be one of the most important factors in their success. Loyalty not only in the sick chamber and the subsequent consultation but in general intercourse with patients' friends and the public. These latter not infrequently took advantage of accidental meetings with the consultant to put such questions as, "Well, what do you *really* think of So-and-so? Is he really suffering from such and such, and do you think Jones really understands his case?" These and similar occasions were those where loyalty was needed. Mr. Bond then referred to the change in the nature of general medical practice which was now in progress. In his opinion the practitioner's time was and would be increasingly occupied with public health subjects in relation to bodies of men such as boards of guardians, public health authorities and the like, and less with individual patients and cases. In these circumstances there would be no less need of loyalty, but in all difficult positions the man who would put himself in his neighbour's place would succeed in retaining his confidence and esteem. The necessity for the profession as a whole was to be co-ordinated and educated. Mr. Bond concluded by again thanking Mr. Bryan and the company. This report can, with the best intentions, only very inadequately convey the atmosphere of the gathering. It was most apparent that all present were conscious that they were losing the advice and assistance of a great surgeon, a sympathetic consultant, and a real friend.

WORKMEN'S INSURANCE IN GERMANY.

A VERY large library has been called into existence dealing with the law and the social significance of compulsory insurance against accident, sickness, invalidity, and old age in Germany. Many of the treatises on the subject are massive volumes, full of instructive and interesting data, but far too long and complicated for the average busy man to digest Many shorter articles and studies have appeared in newspapers, journals, and pamphlets, and nearly all of them have served a useful purpose. We have ourselves contributed to this library, but it is not too great for the needs of to-day. For this reason we welcome a pamphlet of some thirty-five pages from the pens of Sir Thomas Oliver and Mr. Hermann Belger, which deals briefly with the rise, progress, and prospect of this vast project. The pamphlet is a reprint of an article published in the *Yorkshire Post*. The pamphlet is divided into six parts, but, in point of fact, it may be said to be divisible into three sections. First, the historical evolution of the social problems involved is given and given with a fairness and freedom of political bias, which is peculiarly praiseworthy. Next, the actual working of the insurance schemes, or at least the salient points in this working, are set forth. Lastly, some of the effects of the introduction are painted. There are a few points in which we differ from the authors in their general survey of the present state of the question, and we are not so sanguine that the 1909 bill, with its 1,754 paragraphs, will become law. Be this as it may, the treatment of the complicated subject by the authors deserves very careful consideration by all those members of the Association who are now endeavouring to take an active part in the provision of relief during the various forms of incapacity in this country. Sir Thomas Oliver and his colleague might perhaps have emphasized the economic side of the question a little more forcibly. After all, the student of German modern history is always struck by the fact that while the workman has gained immensely from the introduction of the Bismarckian legislation, the primary object of the movement was not to behave kindly to the individual, not to check misery because the Legislature sympathized with the sufferers, but to introduce a system which would work economically for the nation—a system which would produce the maximum number of working days from the population with the minimum expense to the State. Another matter is passed over lightly by the authors. This is the remuneration of the medical profession under the scheme. The fact that nearly one-fifth of the income derived from the insurance is paid to the doctors might be regarded as highly satisfactory from the medical man's point of view, but in reality the work has to be done at a very low rate. It must be borne in mind, however, that Sir Thomas Oliver and Mr. Belger were addressing a lay public, and therefore this last-mentioned subject did not call for special treatment. Finally, attention should be called to the fact that the review is essentially objective and not composed from a narrow or single-minded point of view. This comes out most clearly in the section dealing with the causes of invalidity and accident. We can therefore again recommend those interested in social problems to obtain a copy of this very excellent pamphlet, which is sold for threepence.

VEXATIOUS LITIGATION AGAINST DOCTORS.

A CASE of considerable interest to medical men, and to Poor Law medical officers in particular, has recently been decided at the Leeds Assizes. As will be seen from the report on page 1896, the action was for damages arising out of an alleged libel contained in a report to the Halifax Board of Guardians, given in response to an application made by the relieving officer as to whether the plaintiff in the action was a suitable person to be received into the union hospital. It is four years since the certificate was signed. During this period—and, indeed, for many years previously—the plaintiff has been the source of much trouble to the guardians and all the Poor Law officers. We are informed that she has written hundreds of

letters complaining of her treatment at the hands of the guardians themselves, the clerk to the guardians, the district medical officers in districts in which she has resided, and the relieving officers. Letters of complaint have, we believe, been sent to the President of the Local Government Board, the President of the Education Department, the Home Secretary, and, within the past few weeks, to Her Majesty the Queen. The plaintiff has brought actions against the whole board of guardians in the local county court, and has made applications to the local justices on several occasions, all arising out of the idea that she was being illegally and unjustly treated by the guardians and their officers. It is highly vexatious that Poor Law medical officers should be annoyed with the worry and expense of defending actions such as this. It is part of the duty of these officers to report when required to the guardians on the cases which come under their notice. It would be intolerable if such reports were not privileged. If this were not so, the necessary duties of these officers could not be discharged properly, and the public authority would not be protected against malingering and imposture. The case against the Halifax doctors fell through on the two points raised by counsel—privilege and the plea that the case came within the meaning of the Public Authorities Protection Act, 1893. As this Act is seldom invoked and its provisions do not seem to be generally known, it may be worth while to quote the words on which this defence relied: "Protection of persons acting in execution of statutory or other public duty. Where after the commencement of this Act any action, prosecution, or other proceeding is commenced in the United Kingdom against any person for any act done in pursuance or execution or intended execution of any Act of Parliament, or of any public duty or authority, or in respect of any alleged neglect or default in the execution of any such Act, duty, or authority, the following provision shall have effect: The action, prosecution, or proceeding shall not lie or be instituted unless it is commenced within six months next after the act, neglect, or default complained of, or, in case of a continuance of injury or damage, within six months next after the ceasing thereof."

SCHOOL MEDICINE.

IN another part of this issue will be found the remainder of our abstract of the second annual report of the chief medical officer to the Board of Education. The report is for the most part a discussion of principles, illustrated by examples of their application, rather than a record of work done, so that it is hardly possible to do it justice in any summary. For this reason we have contented ourselves with setting forth on each subject the more important of such dicta as the volume may be considered to contain. This, again, has not been an easy task, for the expressions of opinion are often of a very qualified kind, and on points of special interest a delicate balance is sometimes established between the considerations on one side and the other of a question. The report, in short, is eminently conspicuous for openness of mind—an admirable quality in a judge or a scientific investigator, but a little embarrassing perhaps at times in an administrative body such as the Board of Education. Nevertheless, there are certain points on which that Board has clearly made up its mind. One of these is, that before any local authority institutes schemes of treatment, it should place itself in a position to determine the extent and relative importance of the defects among the school children under its care by a complete and thoroughly well organized system of medical inspection. This is the basis, and a very reasonable basis, of the Board's condemnation of the London County Council, which, during the year ending July 31st this year, had not arranged for the statutory medical inspection of as many as 800 of its schools. The Board has also set before itself a very admirable ideal. This is to secure for all children whose education is undertaken by ratepayers advantages which, to the best of our belief, have been enjoyed by very few children, even among the richest classes. In rate-supported schools the predominant influence will not be pedagogic, but medical; and each child's health will be the common object of solicitude on the part of senior and junior teachers on the one hand, and of those who detect defects and those who treat them on the other. Those who "treat" will be a composite body, including teachers, physical trainers, care committees, parents, nurses, and medical men. The attitude of the Board in regard to this matter is, perhaps, best exemplified by its repeated asseveration that surgical removal of adenoids is merely the commencement of treatment. Much stress is laid, too, on the consideration that to obtain good results there must be absolute coaptation between all parts of the medico-educational organization, and that between those who inspect and those who treat the relations must be especially intimate. It is this fact which makes the favourable attitude of the Board towards schemes of treatment which depend mainly on subsidizing hospitals a little difficult to understand, for by the Board's own showing "following up" any case (or the application of remedial measures revealed to be desirable by medical inspection) becomes in such circumstances especially difficult, if not impossible. But hospital schemes are admittedly only on their trial, and meantime it is clear that an excellent start has been made by the Board of Education.

SANATORIUMS AND TUBERCULIN DISPENSARIES.

THE medical officer of health for Portsmouth has presented to his borough council a report which is likely to attract a considerable degree of attention and criticism. Dr. Mearns Fraser, impressed by the cost of erecting and maintaining sanatoriums, and by the comparatively small proportion of cases in which lasting cure has been shown to have resulted from sanatorium treatment, advises his council to hesitate before incurring a large expenditure on building. He points out, further, that for the amount of the annual cost of maintaining each bed in the sanatorium a trained health visitor could be employed to visit the homes of the poor consumptives, and instruct the patient and his family in the principles of treatment and prevention. He is perhaps over-sanguine when he states that the health visitor "would recognize other members of the family affected with consumption whilst yet in the early stage"; though, if she carried out her duties efficiently, she might be the means of persuading contacts to present themselves for medical examination. Dr. Fraser then proceeds to recommend the council to establish a tuberculin dispensary on the lines of the one recently opened by Dr. Camac Wilkinson in South London. There are many advocates of antituberculosis dispensaries, which are well known on the Continent and in America, and have already been established in this country, but it is not such institutions as these that Dr. Fraser is recommending. He is asking for a special kind of treatment. It is unfortunate that, in quoting Dr. Newsholme in favour of tuberculosis dispensaries, he does not point out that the extract does not specially refer to tuberculin dispensaries, as the context might lead the reader to

suppose. When Dr. Fraser says that he does not feel that tuberculin treatment, and in particular the form advocated by Dr. Camac Wilkinson, has had a sufficiently long trial for any one to dogmatize upon the subject, we believe this to be true. The evidence brought forward by Dr. Fraser in his report seems hardly sufficient to justify the adoption of tuberculin as the official remedy for consumption in the borough without further inquiry. The proper attitude for the medical profession at the present time would seem to be a suspension of judgement until sufficient time has elapsed to warrant the publication of the results of the trial in South London. At the same time, if Portsmouth embarks on the experiment of establishing a tuberculin dispensary the experience will be followed with great interest.

FISH OUT OF SEASON.

IT is a cruel affliction of humanity to hanker after forbidden fruit. The desire seems deeply engrained and even the disastrous consequences liable to ensue are frequently insufficient to deter. To many misguided persons laws exist apparently only that they should be broken, and no matter in whose interests, those of a particular section or of the community at large, the laws are framed, there will never be wanting individuals who see in them food for grievance, an opportunity for sporting risk or a prospect of pecuniary gain by circumventing or evading them in every possible way. There is a still more unfortunate class who, knowingly or otherwise, take advantage of these infringements and who, exempt from the immediate hazard, shut their eyes to the possible dangers to which they may expose themselves. There is perhaps no more apt example of this than the case of the game and fisheries protection laws. It is somewhat unnecessary to say that these laws are framed, for the most part, in a true economic and scientific spirit, and particularly so is the case of the fresh-water fisheries laws; it is to the latter that we wish here to draw attention. An article on the same subject appeared in this JOURNAL some twenty-five years ago,[1] and we cannot do better than refer to that. The provisions embodied in the Fresh-Water Fisheries Act are not directed solely towards the preservation of property. They are intended to ensure that that property, private or public, shall not be misused, and that it shall have a reasonable and adequate opportunity of recuperating itself. It is obvious that this property, consisting as it does of live stock, will eventually perish unless the natural means of replenishment are afforded. This is absolutely essential in the case of trout, which have a definite and normal spawning period. During that time protection and freedom from molestation is necessary. Yet, in spite of its obvious nature, this economic principle apparently fails to convince in some cases. The practice of catching spawning trout, which appears to be increasingly prevalent in some parts of the country, cannot be too strongly condemned. Not only is it illegal, but it is wasteful and unsportsmanlike. On the fisheries it works great havoc and leads to much future loss. On biological and economic grounds alone, therefore, the practice is unquestionably reprehensible, but there is the further not unimportant consideration of public health to be added, and it is in this respect that we would strongly appeal to those who indirectly countenance the nefarious practice by purchasing out-of-season fish. It is a well-known fact that fish when spawning and for some time after are out of condition. The reproductive process is a great drain on their other functions; their flesh in particular suffers, the muscles becoming soft and flabby. In this "run-down" condition the fish are especially prone to attack by bacterial and parasitic diseases. These cause further deterioration in the fish, and in many cases lead to their death. Here we must be understood to be considering the condition in fresh-water fishes. In their habits and circumscribed life they differ in many respects from the freer and more widely roaming marine food fishes, and statements with regard to the one are not necessarily applicable to the other. There is no doubt, however, that trout suffer from this "run-down" condition, and when captured in this state their flesh decays more rapidly than usual. To consumers, therefore, there is the by no means negligible danger of food poisoning from the presence of deleterious organisms. It is, we confess, surprising that there should be people, pardonably fond of fish, who insist on eating trout all the year round. To them the great wealth and variety of British food fishes must assuredly be unknown. Fishes of many various kinds and in the best of condition may be had at all seasons of the year, and offhand we might mention some of those, which ought to be familiar to every one—namely, cod, haddock, whiting, smelts, pollack, torsk, ling, hake, halibut, turbot, plaice, sole, flounder, dab, brill, herring, pilchard, bass, red mullet, grey mullet, bream, mackerel, dory, catfish, salmon, eel, and conger—a list surely long enough to satisfy the most fastidious of palates.

[1] BRITISH MEDICAL JOURNAL, February 27th, 1886, p. 412.

THE ANTIQUITY OF LEPROSY.

IN the latest *Bulletin* (No. 6) *of the Archaeological Survey of Nubia*, Professor Elliot Smith and Dr. D. Derry describe and figure a case which shows all the typical lesions of leprosy. The subject of the disease was found in a Nubian cemetery assigned to an early Christian century. Although the tissues are at least 1,600 years old they cut and stain perfectly, but so far no leprosy bacilli have been found in them, although various forms of cocci are seen in abundance. The authors have had many opportunities of examining the remains of many thousands of Ancient Nubians—covering a period of at least 6.000 years, yet this is the first instance they have seen suggestive of leprosy. No certain signs of syphilis have been found, but typical examples of tuberculosis do occur although not abundantly. Many of the pathological specimens described in these *Bulletins*, including the one of leprosy just mentioned, are to be seen in the Museum of the Royal College of Surgeons of England. No collection in the world can rival this in giving a continuous representation of the diseases of one people through a period extending over 6.000 years. These *Bulletins* contain a wealth of absolutely fresh data relating to the physical characters, evolution and diseases of the Egyptian people, collected, arranged, and illustrated by accurate observers and clear thinkers.

BRITISH DENTAL ASSOCIATION.

THE annual meeting of the Metropolitan Branch of the British Dental Association was held in the school buildings of St. Bartholomew's Hospital on the evening of December 7th; Mr. W. B. Paterson, dental surgeon to the hospital and president of the branch, was in the chair. After the transaction of formal business, the president delivered an address, in the course of which he described the origin and growth of the dental department of the hospital, the scope of its work as a charity, and its teaching in the medical school. The department was founded in 1837, when Mr. Arnold Rogers was appointed the first dental surgeon with the duty of visiting the hospital on one day in the week. Upon the retirement of

Mr. Rogers in 1849, and his appointment as consulting dental surgeon, he was succeeded by Mr. Tracy, who in turn was followed by Mr. Alfred Coleman. Five years before the latter gentleman's retirement through ill-health in 1884, the department was reconstituted and met twice weekly. At the present time the department is in charge of four dental officers, and meets daily in the morning, Tuesdays and Fridays being full mornings. The dental teaching offered to the medical student is carried out on definite lines. Quarterly classes are held for those about to commence surgical dressing in the wards, and these are recognized as dressers' classes. The elements of dental surgery are taught in these classes, and extraction operations are practised in the dissecting rooms. The student during his dressership period is encouraged to attend the casualty dental department, where his work is superintended by the dental staff. Dresserships in the dental department itself are open and free to all students, and are specially recommended to those who intend joining the Army and Navy Medical Services. With regard to the question of dental students in the hospital no special provision has been made, but it was thought probable, in view of the fact that training in the mechanical work of dentistry was now being taught at most of the dental schools, that dental students would tend to seek the medical portion of their curriculum in the larger medical schools of the metropolis, especially as the facilities of rapid locomotion had become more numerous. At the conclusion of the address Mr. F. Coleman described the cases collected for the members' inspection in the dental department, and a move was therefore made to that department. Afterwards the members visited the great hall of the hospital, the new pathological block, and museum, the proceedings terminating in a *conversazione* in the library. Votes of thanks were passed to the medical staff and the hospital authorities for the use of the buildings, which had contributed so much to the interest and enjoyment of the meeting.

A NEW LOCAL ANAESTHETIC.

IF we are to believe Privatdozent Dr. Richard Werner of Heidelberg,[1] zykloform is a non-toxic, mildly drying, non-irritant, prompt, and strong local anaesthetic, which influences the healing of wounds favourably, and which acts locally and superficially. These excellent qualities have been ascertained in Exzellenz Czerny's Institute for Cancer Research. The preparation is the iso-butyl ester of para-amido-benzoic acid. It is readily soluble in alcohol and ether, but little soluble in water, which accounts, we are told, for its slight toxicity. The evidence adduced that it is not toxic is contained in the statement that, although several grams of zykloform were applied daily for three or four weeks to extensive wound surfaces, no signs of an intoxication ensued. With regard to its anaesthetic action, we are informed that it was used both in powder form and as an ointment, together with naftalan, lanolin, olive oil, zinc oxide, and boric acid. Fresh wounds, such as those produced by fulguration of cancers, were powdered with zykloform and then covered with a dressing soaked in acetate of aluminium. The pain of these wounds was less when dealt with in this way, and the changing of the dressings, too, was less distressing to the patient. When the ointment was used on granulating and inflamed surfaces, pain is said to have been instantly removed, and the inflammatory process began to heal up. A few failures are readily explained away. The sedative effect is said to have been produced within a few minutes of the application of the powder, but less rapidly when the ointment was employed. Very severe pain could be completely removed, although complete anaesthesia or paraesthesia was not met with. All these claims for the new drug may be fully justified, but it seems desirable to call attention to the fact that it is most dangerous to place any reliance on accounts of the actions of new pharmaceutical preparations which are written without any definite clinical records or objective evidence. The action of an ointment containing six chemical substances of the type of those mentioned above cannot be ascribed to any one of the ingredients, nor, indeed, would we be surprised if the organism chose to react irregularly to such a mixture. The evidence of non-toxicity is distinctly weak. Next the author claims that pain is abolished without complete anaesthesia supervening, but speaks of the drug as a new local anaesthetic. We would warn practitioners not to use new drugs on the recommendation of papers written in so loose a style as the one to which reference has been made.

[1] *Muench. med. Woch.*, September 20th, 1910.

SLEEPING SICKNESS.

DR. OLD, acting for the Principal Medical Officer, Dr. Hearsey, has continued the diary on sleeping sickness in the Nyasaland Protectorate.[1] Some very important information is contained in this part (XI). Seven new cases of the disease have recently been reported, and it seems certain, Dr. Old says, that, of those 7 cases, none can have been exposed to the bites of *G. palpalis*. Considering them along with some previous cases, he considers that one or more species of diptera must be incriminated. *G. morsitans* is conspicuous in the histories of some of these new cases, but *G. fusca* has also been found in many of the localities mentioned. Much remains, however, to be done in mapping out infested areas. Drs. Murray and Sanderson have remarked on the large number of parasites in some of the cases, and believe that these trypanosomes are larger than *T. gambiense* and differently shaped. They also draw attention to the rapidity and severity of the symptoms in one of the cases. The point of outstanding importance, Dr. Old thinks, is that no free communication whatever should be allowed from the infected portions of the respective territories in Nyasaland and North-Eastern Rhodesia; all persons returning from the Loangwa and beyond, and Tanganyika, should be kept under observation for a month at a station of entry, and be given a reliable certificate before discharge by the medical officer in charge. He also recommends that the state of health of all native workers in the country being sent home sick should be reported by their friends to the nearest Resident periodically, and that they should be confined to their villages, as other cases may now be expected to be heard of scattered over the country.

THE King has awarded the Edward Medal of the second class to Dr. Edwin Arthur Dando for courage shown on the occasion of the underground fire which occurred at the Russell Colliery, near Dudley, on April 17th, 1910, and in connexion with which the Edward Medal was awarded on July 23rd, 1910, to Arthur Cartwright, Isaiah Walker, Samuel Slater, and Anthony Willetts. Dr. Dando, who was summoned to the mine when the fire broke out, went down the pit and bravely assisted in the rescue work for several hours. He was at last overcome by the poisonous gases, and was brought to the surface unconscious, and he has not yet completely recovered from the effects of his courageous action.

[1] *Nyasaland Protectorate, Sleeping Sickness, Diary.* Part XI. By the Officiating Principal Medical Officer, Zomba. Printed by the Government Printer. 1910.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Parliamentary Session.

THE record of the session of 1910 becomes, in consequence of the dissolution, the record of a Parliament, the shortest for twenty-five years. The Commons met for the first time on February 15th, and dispersed to face the constituencies on November 28th, but the session was a very broken one, and there was in consequence of the lamented death of King Edward a long period of inactivity. The output of the session has consequently been small, and the conditions under which the Parliament was elected did not conduce to the production of many social schemes, as the great question of the relative powers of the Lords and the Commons overshadowed all other subjects. Moreover, a session which commenced with the Budget of the previous year unpassed, had to begin with a load of arrears to overcome before it could undertake new legislation. Altogether 223 bills were introduced as compared with over 300 last year. Of the 223, 42 were Government bills, of which 32 passed, while of the 181 private members' bills, only 9 became law. The 32 Acts passed by the Government were made up of two necessitated by the demise of the Crown—namely, the Regency Act and the Statute dealing with the Civil List. The Act altering the Accession Declaration also may be referred to the same cause indirectly. There were also six Acts connected with the two Budgets, double the usual number, consisting of Consolidated Funds, Appropriation, and Finance Acts for each year. Then there were two Census Acts, one for Great Britain and one for Ireland, the Education Choice of Employment Act, the Expiring Laws Continuance and the Army Annual Acts, together with the measure amending the Development and Roads' Improvement Act of last year. The remainder of the legislative product of the Government consisted of less important additions to the law. One of these which was passed to amend the law of Registration of Births, Deaths and Marriages in Scotland, was a small alteration to enable the Scottish Registrar General to certify extracts from his registers by seals instead of by the signature of his name.

Of the proposals which the Ministry failed to pass there was only one of first-rate importance, the Parliament Bill, which was based on the resolutions passed by the Commons to limit the powers of the House of Lords. On seven parliamentary days these resolutions were debated, but the bill itself which brought about the breaking up of Parliament and the General Election was never discussed in either House. Two other bills, the Shops Bill and the Public Health Visitors Health Bill, we are sorry to have lost, but there is good hope that they will come on early in the next Parliament. Two attempts were made in the House of Lords to amend the Midwives Act, but both were unsuccessful.

The private work of Parliament was not so much interfered with by the political situation, for 40 Provisional Order Acts were passed, and also 22 Scottish measures under the Scottish Procedure Act, and 82 private bills passed out of 110 introduced.

Turning now to private members' bills, 181 were brought in, compared with 230 last year. The 9 Acts put upon the Statute Book by private members this year compare with 16 passed last year. None of them had any direct interest for the medical profession. There were, however, a number of bills of much interest to public health and medicine among those which did not pass. First of these was Mr. Cathcart Wason's Parochial Medical Officers (Scotland) Bill, which has been before Parliament for some years, but has been unlucky in many sessions. The Coroners' Law and Death Certification Bill affected the interests of medical men seriously, and has been dealt with in our leading columns.[1]

[1] BRITISH MEDICAL JOURNAL, July 9th, 1910.

A small bill, introduced by Mr. Gill, and called Death Certificates (Charges) Bill, on the other hand, only sought to reduce the charges made for copies of certificates. There were several bills promoted by the antivivisectionists, none of which made any progress. The Nurses' Registration Bill was also never practically before the House, but will most probably have better luck in the new Parliament. There were several bills introduced by private members dealing with the Public Health Acts, and one of these obtained a good place in the ballot, through Mr. Roberts. It was called the Public Health Act (1875) Amendment Bill, and dealt with water supply, but it had to be dropped early in the session. The one bill that attracted much public attention was the Prevention of Destitution Bill, introduced by Sir Robert Price, who drew first place in the ballot. The second reading discussion was a full-dress affair, and both the Prime Minister and the Leader of the Opposition spoke benevolently as regards Poor Law reform, but not in any way committing themselves to the views of the Minority Report, which the bill embodied. Dr. Addison introduced a very interesting proposal in the Elementary Schools (Instruction in Hygiene) Bill under the ten minutes' rule, and by this method he was able briefly to state the arguments for such instruction. Lastly, the Milk and Dairies Bill, introduced to force the question of milk inspection to the front, and induce the Government to legislate, may be mentioned as one of the failures to be regretted. There were several occasions in Committee of Supply in which medical questions occupied a considerable amount of attention. The debate on the Local Government Board led to a discussion on the payment of vaccination officers. On the naval vote reference was made to the committee investigating the naval medical service, and to the demands for the establishment of a Royal naval medical school and other changes. The Home Office vote opened up the subject of dangerous trades, and lead poisoning, as usual, was critically considered, and the position of certifying surgeons and medical referees under the Compensation Act was also discussed. On the Report of Supply there was also a warm debate on the altered arrangement about the Medical Commissioner of Prisons.

As in other years, it was, however, by the use of questions that medical topics were most frequently raised. The list of subjects dealt with in this way shows how all matters connected with sanitary and medical work interest both Houses of Parliament, and how useful it is to call attention to important matters by this method. Some of the points raised by way of question and answer dealt with: Payments under the Midwives Act, the petrol tax and the profession, motor ambulance service for London, the Senate of the University of London, vaccination officers and superannuation, fish diet for soldiers and sailors, invalidity insurance, Mediterranean fever, forcible feeding and heart disease, the Tuberculosis Commission, licences for experiments on living animals, the Notification of Births Act in Scotland, sanitation and water supply in Wales, deaths from starvation, Sunday golf, deaths from tuberculosis in Ireland, official certifying surgeons, Poor Law children, the use of anaesthetics, glanders, disinfection of schools, Madras Medical College, lead poisoning, deaths from anthrax, formaldehyde and chilled meat, Chinese pork, deaths from camping out in wet weather, sleeping sickness on the Congo and in Nyasaland, vivisection, typhoid in Madeira, medical officers in the Transvaal, Indian Medical Service, metropolitan asylums, technical grants to medical schools, plague in East Anglia, etc. Questions year by year grow in volume, and must be regarded as one of the most effective ways of calling attention to defects in administration as well as in the law, and a most important method of keeping medical matters before Parliament and the public. Considering the almost unique character of the session, and the comparatively few opportunities it gave for the discussion of sanitary and medical subjects, this record should satisfy the profession that their interests have not been ignored in either House.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE MINDED.

Effect of the Proposals in London.

VARIOUS committees of the London County Council—the Asylums, Education, Public Control, Local Government, Finance and General Purposes Committees—reported on December 6th as to the bearing of the recommendations of the Royal Commission on the Care and Control of the Feeble-minded upon lunacy administration in the metropolis.

The Commissioners considered that the position in London with regard to the care of the mentally defective was exceptional and that the difficulties were due less to insufficiency of accommodation than to the want of any machinery which would lead to a readjustment of the relations of the several authorities concerned—namely, the guardians, the Metropolitan Asylums Board, and the County Council. This division of work, in the opinion of the Commissioners, involved also a division of authority and a lack of co-ordination fatal to any successful treatment of the problem. Accordingly the Royal Commission addressed itself specifically to the question of setting up administrative machinery in London.

The Views of the Council Committees.

On the recommendation of the Commission that there should be "one central authority for the general protection and supervision of mentally defective persons" the Local Government Committee raised the question whether this work could not be undertaken conveniently by the Local Government Board, suggesting that the overlapping of jurisdiction was as great in Government departments as in the case of local authorities. In regard to the work of the local authority under the Commission's proposals, the Local Government Committee urged the desirability of so constituting the statutory committee for the feeble-minded that when the recommendations of the Poor Law Commission came to be dealt with the nucleus of the organization for public assistance would be already in existence. Although the powers proposed to be given to the statutory committee were not exclusively of the nature of public assistance, in practical administration there would be very considerable similarity, and the two matters were so interwoven that if the two services were placed under separate authorities there would be a danger of overlapping and friction. The difficulty would also occur of finding sufficient members to man two important statutory committees of this kind.

The Asylums Committee was of opinion that the recommendation of the Commission with regard to "friendly visitors" to advise as to training, education, or marriage, was a serious and common-sense attempt to deal with a very complicated phase of the lunacy question—the inter-marriage and consequent propagation of imbeciles. The committee had been endeavouring for years to secure the establishment of receiving houses and receiving wards, and was therefore much gratified to find the Royal Commission recommending their compulsory establishment. Generally speaking, the Commission gave the proposed committee a very wide discretion, and only experience could show what would be the best course to pursue under certain conditions. The Asylums Committee laid stress on the importance of insanity and feeble-mindedness being comprehensively dealt with. At present the ascertainable amount of insanity was obscured by a wide fringe of feeble-mindedness which could not be dealt with adequately under existing powers, and from this fringe lunatics, officially recognized as such, were being recruited constantly. Unless drastic measures were adopted, the only prospect of elimination of future generations of insane and degenerate stock seemed to lie in such measures as suggested by the Royal Commission.

Mentally Defective Children.

On that portion of the recommendations of the Commission dealing with mentally defective school children the Education Committee agreed that a register of mentally defective children should be kept, and thought that the duty of compiling it should fall on the Education Committee, and that some effective means should be devised to prevent duplication or conflict of medical certificates. The committee also agreed that observation centres, or homes for scientific and medical differentiation, should be established, but was of opinion that the provision of intermediate schools for dull or backward children needed careful consideration; perhaps an experimental school should be established in the first instance. As to what authority should be responsible for the education and training of mentally defective children, considerable difference of opinion existed, but the Education Committee had come to a conclusion in agreement with the Royal Commission that the proposed central authority should be responsible for both children and adults.

The Asylums Committee and the Public Control Committee were in general accord with the recommendations of the Commission with regard to criminal mental defectives and inebriates. The Public Control Committee, however, pointed out that if the recommendation that such inebriates as were mentally defective should be dealt with under the proposals of the Commission a heavy additional financial burden would fall upon local authorities.

Effects upon Local Taxation.

"Having to a certain extent located and described the recommendations," the County Council committees went on to deal with their probable effects on local taxation. The Local Government Committee considered both the methods suggested by the Royal Commission for readjusting local expenditure and exchequer contributions to be open to objection. The block grant system would be unfair to London and other urban areas where the higher rateable values necessitated a higher rate of expenditure. The second method—of adding a new grant for new cases to the grants now paid—would complicate still further the system of imperial subventions. The proposal to give for a limited time grants towards the provision of accommodation would be of most assistance to authorities which had been most backward in making proper provision for the mentally defective. It would be more equitable to base the grant on the total accommodation provided.

The Finance Committee pointed out that the extension of control to all mentally defective persons would involve an increase in expenditure, and the financial operations of the proposed statutory committee would be very large. The cost to the Council would come under two heads: (1) Expenditure on services now carried out by other authorities and the Council's own present expenditure; (2) new expenditure involved by carrying out the proposals of the Commission. There would not be an addition presumably to the burdens of the London ratepayer under the first head. Shortly stated, the enlarged scope of operations of the new committee would involve increased expenditure in carrying out the following new duties:

(*a*) Detention and control of defective children after school age.
(*b*) Compilation of register of mentally defectives.
(*c*) Appointment of medical officers and certifying medical practitioners.
(*d*) Detention of mentally defective persons convicted of offences, and control over defective persons who would otherwise frequent the casual wards of workhouses and other shelters.
(*e*) Compulsory provision of accommodation for mentally defective inebriates.

It was impossible to estimate the cost to London of carrying out the whole of these recommendations, but some idea might be gathered from the figures given by the Commissioners for the whole of England and

Wales. They estimated the additional cost at £899 532, or an increase over the present cost of £541,492. The Finance Committee pointed out that saving in administrative expenses, owing to co-ordination and economy, would occur as the result of better classification. Under the present system there was considerable pressure on the relatively costly asylum accommodation by reason of the "feeble and decrepit" old people whom the guardians passed on. The exclusion from lunatic asylums of persons who did not need such expensive treatment should result in considerable economy. It was in order to avoid clogging special institutions with unimprovable cases that the Commission proposed the appointment of one authority in each county or county borough to ensure that persons should be passed on to institutions best fitted for them. It might be assumed that some economy to the public purse would ensue from the avoidance of the duplication and even triplication of certificates prior to admission which occurred so frequently under the present system. The Finance Committee rejoiced to see, in the Royal Commission's recommendations, unity of financial administration foreshadowed, thus securing to ratepayers the fullest possible economy. The committee endorsed the objections of the Local Government Committee with regard to the readjustment of cost between local authorities and the Government, and remarked in conclusion that the care and control of the mentally defective was universally recognized as a national rather than a local question, and it was satisfactory to note that the Commission realized and pointed out the need for "substantial financial assistance" from the Exchequer. When the time came it would be imperative for the Council to take steps to ensure that adequate assistance was granted from Imperial funds to meet the cost of carrying out effectively any proposals made as a result of the Commission's report.

The Committee's Recommendations.

The recommendations attached to the joint report of the committees were:

(*a*) That the Council welcomes proposals for the co-ordination of the administration of controlling persons of all ages coming under the term "mentally defective" as defined by the Royal Commission.

(*b*) That no opinion be expressed with regard to the constitution of the proposed Board of Control, but that in the opinion of the Council the control should be vested in a single Government department.

(*c*) That if the Council is required to undertake the work, it should be discharged through a statutory committee of the Council, with the power of co-option, financial control, and the determination of new principles to rest with the Council.

(*d*) That adequate provision should be made for close co-operation with any authority that may be set up hereafter for dealing with the administration of public assistance.

(*e*) That, in the opinion of the Council, the care and control of mentally defective persons is a national service administered locally; and while not agreeing with the methods proposed by the Royal Commission for the allocation of Imperial grants, the Council is of opinion that provision for an appropriate measure of Exchequer assistance should accompany any reorganization or extension of the administrative machinery for dealing with such persons.

(*f*) That a copy of the foregoing resolutions be forwarded to the Government.

Owing to the absence of leading members of the Council in connexion with the parliamentary contests, the consideration of the question was adjourned.

SCHOOL ACCOMMODATION FOR THE MENTALLY DEFECTIVE.

Reporting concurrently on the provision of accommodation for mentally defective children in London, the Education Committee mentioned that in 1908 the Council decided that no additional schools for the mentally defective should be provided pending the issue of the report of the Royal Commission. In the event of the proposals of the Commission becoming law, the special schools for the mentally defective provided by the Council would continue to be carried on, in all probability, by the Council, although the expenditure connected with them would not be charged to the education account. Until it was known what action would be taken in regard to the report of the Commission, the committee considered that the work of the Council should continue substantially on the present lines—that is, that accommodation should be provided to meet immediate needs, but the question of future requirements should remain in abeyance. Following proposals to provide 220 school places for mentally defective children already agreed to, the committee submitted further schemes to provide 610 more places.

The Finance Committee, reporting on these proposals, stated that it had postponed their consideration until the Council's policy in regard to the report of the Royal Commission had been formulated. However, the recommendations of the various committees (see above) were confined to a general approval of the principles of the Commissioners' report, and did not afford much help in the direction of settling the important question of policy to be adopted in meeting the present need for accommodation for mentally defective children in London. It seemed likely that, for some considerable time to come, day-school accommodation will be required for these children, whether or not the education authority continued to be entrusted with their care, and therefore the Finance Committee had given its approval to the Education Committee's proposals. Remembering that special cost twice as much as ordinary school accommodation, the Finance Committee would have advocated, if it were practicable, that some temporary measures should be adopted until the trend of future legislation was ascertained, but the committee was assured that certain difficulties prevented the adoption of this course.

Mr. Leon raised the question whether it was desirable to rescind the Council's decision not to make any further provision for defective children until the whole question had been dealt with by Parliament. He hoped the provision of additional accommodation would be delayed, because the Royal Commission advocated the segregation of these children, and it might be that expenditure on the present lines would be wasted. It was handicapping the normal child to ask the Finance Committee to find a large sum of money for mentally defective children, when the normal child was being crowded in unduly large classes. It would be worth while to wait one or two years—he did not think it would be longer—for the whole question to be settled by Parliament. In his view, it was wrong to spend large sums in educating defective children who, by reason of the education they received, might be more likely to perpetuate their stock.

Mr. Jay, Chairman of the Committee, said he had a great deal of sympathy with Mr. Leon; but as there seemed no prospect of the Government dealing with the question, no other course was open to the Council than to provide for children actually out of school, which was all that was proposed. He feared the expenditure might turn out in the end to be unremunerative and unsatisfactory, but unfortunately the Council could not help that.

The proposals for additional accommodation were then approved.

TREATMENT OF SCHOOL CHILDREN.

At the end of a long sitting of the Education Committee of the London County Council on Wednesday a debate arose on a proposal by a subcommittee to renew for twelve months the agreements for medical treatment of school children with the Belgrave Hospital, the Charing Cross Hospital, the Hospital for Diseases of the Throat, Golden Square; the London Hospital, the Metropolitan Ear, Nose, and Throat Hospital; and St. George's Hospital, Hyde Park Corner. In some cases the numbers to be treated was proposed to be increased, and in others diminished. The subcommittee promised a report shortly on the general working of the present scheme of medical treatment. An amendment was moved by Mr. Bray to renew the agreements for six months only, the suggestion being that the Council might wish after considering the forthcoming report on the whole scheme to resort to school clinics. Mr. Bray also urged that an inquiry should be made into the rumours, which he said were heard constantly, of unsympathetic treat-

ment of the children by the hospitals. Mr. Sanders, a Labour member, said that a movement was on foot amongst working men in opposition to the Saturday and Sunday Hospital Funds as a protest against being forced by the Council to pay for treatment at voluntary institutions to whose funds they contributed already by workshop collections and otherwise. The chairman of the subcommittee, Mr. Anderton, gave an assurance that no complaints had been justified in respect of the six hospitals whose agreements were under consideration, and by a small majority the Committee decided to recommend the Council to renew the agreements for twelve months.

THE SANATORIUM WORK OF THE CHARITY ORGANIZATION SOCIETY.

The Charity Organization Society in London, working through its forty-one district committees, sends every year an increasing number of patients to sanatoriums. Last year over 100 people were sent; this year the numbers are larger. The total number sent from 1902, when the work started, to December 31st, 1909, was 385. The applicant requires no recommendation beyond a good chance of recovery, a matter in which character and environment, as well as the condition of his lungs, have to be taken into account; he is examined and passed by a specialist in chest diseases; he goes with the minimum of delay to a sanatorium, where he is kept, as a rule, as long as the doctor wishes him to remain; his family is provided for while he is away, and on his return efforts are made to find him suitable work if his own occupation is unsuitable, or to improve the conditions under which he must work. The following sanatoriums are used by the society: Kelling Sanatorium, Norfolk; Brompton Hospital Sanatorium, Frimley; Maitland Sanatorium, Peppard, Oxon.; Maltings Farm Sanatorium, Essex; and Boxgrove Cottage Sanatorium, Tilehurst. Six permanent beds are kept at Kelling Sanatorium. The average length of stay at the sanatorium is seventeen weeks and four days.

As to the results obtained. All the 385 patients sent away before December 31st, 1909, were looked up early this year; from their own statements their condition was as follows: 50.12 per cent. were working, fit for work, or improved, and 11.42 per cent. were ill; we were informed that 26.49 per cent. were dead, and 11.94 per cent. could not be traced. It should be added that these results are not presented in an unduly favourable light; the figures are a bald statement of fact. It should be added, also, that the present medical referee did not begin his work till 1904; that the figures include cases sent to three sanatoriums which no longer exist; that new methods bring constantly improving results; and that the results in the future are likely to be even better than in the past. The results obtained justify, it is felt, the continuance of the work, and the society appeals for larger financial support. The cost of the sanatorium work is shared by district committees and the central council of the society. The district committee finds 15s. a week towards the cost of the patient's treatment, and has besides to find whatever money may be necessary to keep the family going. The money is raised on each case separately from relations who can help—if any—clergy, employers, local charities, etc. The medical subcommittee finds the balance of the cost of treatment—that is, 10s. to 15s. a week. For this purpose over £900 a year has to be found; of this sum only about £50 is received in regular subscriptions.

Contributions, marked "Sanatorium Fund," may be sent to C. S. Loch, at Denison House, 296, Vauxhall Bridge Road, S.W., or to Messrs. Coutts and Co., Strand, W.C.

MANCHESTER AND DISTRICT.

THE NORTHERN COUNTIES HOSPITAL FOR INCURABLES.

THIS hospital occupies a unique position among the hospitals of Manchester, inasmuch as it deals with a class of patients who have, as a rule, been regarded by the other hospitals as incurable, but whose condition and symptoms may often be considerably relieved by proper nursing and medical attendance. There are two institutions connected with the hospital: one at Mauldeth, near Manchester, which at present has 72 patients—28 men and 44 women—and the other at Walmersley, which has 46 women patients, a total of 118. Of these there are altogether 120 free patients, the remainder paying as they can afford. The annual report shows that during the past year there were 16 deaths and 3 removals, and that the net receipts on current account was £6,240 and the expenditure £6,646, which, after transferring a sum from legacy and investment account, leaves a debit balance of £335. There has been a fairly liberal response to the special appeal for fresh donations or the deficit would have been much greater. Among the donations are included £1,000 from Mr. B. C. Brierley of Rochdale, and £1,000 from the executors of the late E. S. Massey. The legacies include a sum of £2,250 from the late D. S. Jackson and £1,414 from the late Miss E. Gauthorpe, and amount in all to £4,899. At the annual meeting resolutions were passed adopting the annual report and thanking the ladies' committee and the officers for their services.

SICK POOR NURSING IN MANCHESTER.

There is no institution in Manchester, said the Lord Mayor at the annual meeting, that ought to appeal more to philanthropic people than the Manchester and Salford Sick Poor and Private Nursing Institution. In the forty-fifth annual report, read by Dr. Arthur Helme, the honorary secretary, it was stated that the district nursing staff now numbers 73 nurses, an increase of 2 during the year, and the total work of the nurses was represented by more than a quarter of a million visits to 9,798 patients—that is, about 5,000 visits a week. The serious character of the financial position was again mentioned. The grants required by the separate districts amounted to £600 more than they did three years ago, and the annual income from subscriptions was less rather than more. In response to the special appeal for funds, £500 was mentioned as received in the last annual report, and a further sum of £271 had since then been received, as well as an anonymous donation of £100 for the Harpurhey and Bradford Homes. The private nursing department had during the year brought a profit of £183. The Memorial Nursing Home had by the generosity of Miss Gaskell been enlarged to accommodate 16 patients, and since its reopening in March 120 patients had been admitted, of which 112 were surgical cases. The report was adopted, and several minor alterations in the rules were made. After the meeting a sale of work was opened by Lady Donner in aid of the funds of the institution. Lady Donner said it was hardly creditable to Manchester and Salford that it should be necessary to have a sale of work to meet expenses for such a useful and beneficial institution. At the present time there was urgent need for still more nurses, and yet the committee was faced with the possibility that instead of increasing its staff of nurses it might be compelled to restrict their work.

There is no doubt that medical men are often very considerably assisted in attending the working classes by the nurses of this institution, and the convenience of being able to obtain freely nursing aid for their patients may cause some danger at times lest the institution should be abused by patients who could well afford to pay something for nursing attendance. Every possible care is taken by the authorities to prevent anything like unqualified medical practice by the nurses themselves, who only attend under medical supervision, and it is believed that there is a practical absence of those attempts by nurses to supplant medical men which seem to be so common in some parts of the country.

A "CLEAN SHAVE" FROM A MEDICAL STANDPOINT.

The example set by the Salford Hairdressers' Association in appointing a special medical officer to give the benefit of his knowledge to members of the association, not only when legal cases arise, but as to the

general antiseptic precautions to be used by hairdressers, has been followed in various parts of the country. The interest taken in the use of aseptic and antiseptic methods has no doubt been stimulated by actions for damages brought against hairdressers. In some cases claims for damages made on account of skin diseases said to have been caused by foul shaves have little ground in fact, and in most cases there must be the greatest difficulty in proving that a shave was the direct cause of disease apart from any pre-existing causes present on the customer's face. The possibility, however, is such that the hairdressers' associations throughout the country are evidently roused to the necessity of using more scientific methods, and in several towns special courses of lectures for hairdressers are now given at the technical schools. One of the functions of the medical advisers appointed is to give occasional lectures, and last week Dr. Wolstenholme, medical adviser to the Salford Hairdressers' Association, gave a lecture to the members, in which he dealt with what is known as a "clean shave." After summarizing a previous lecture in which the structure of the skin had been described, Dr. Wolstenholme said that by a "clean shave" he meant one that not only made a person look clean, but which left no disease behind it, and to this end the hands and all the appliances of the barber, as well as the face of the customer, must be free from germs that cause disease. He next gave a popular account of the general characters of bacteria, and pointed out that most of the diseases of special importance to hairdressers were due to germs which are always to be found on the skin, lips, hands, and mouth of both the hairdresser and the customer, and that to cause local disease there must be some abrasion or some irritation of the skin. It was also probable that the health of the person infected must be in some peculiar condition. The germs might be carried by any of the appliances used by the barber, such as towels, brushes, the fingers used in lathering, the razor, sponges, etc. He understood that the Bristol Hairdressers' Association had made arrangements with the university authorities to make a full bacteriological inquiry to find out which of the barber's implements it was that carried the infection. In order to destroy the germs, he pointed out that either heat or antiseptics might be used, but that both must be of considerable strength and used for a sufficient length of time. Probably the best plan for all the instruments was to boil them for at least twenty minutes, and some inexpensive arrangement for use with a gas burner should be obtained. Towels should only be used once, and then washed and thoroughly boiled. The razor should be wiped, not on bits of newspaper, but on fresh pieces off a sanitary roll, and it should be sterilized by boiling for at least five minutes. A number of brushes and sponges should be kept, boiled each time after use, and then kept in a solution of 1 in 20 carbolic acid or 1 in 1,000 perchloride of mercury, and rinsed out in boiling water before use. Some useful hints were then given as to the fitting up of a shop with a view to antiseptic precautions. Particular stress was laid on the fact that after a slight abrasion customers might often infect themselves by rubbing their faces with a dirty hand or handkerchief. As a styptic for a cut there was nothing better for general use than calcined alum applied on a piece of sterilized cotton-wool. As far as ringworm was concerned, for practical purposes the barbers should act as if it were possible for ringworm of the chin to be caught from ringworm of the head or body. Combs should be soaked in 1 in 20 carbolic acid and rinsed before use, while scissors and clippers should first be taken to pieces and then sterilized by boiling. With regard to the "septads" which the Federation advised to be used, he had a good idea as to what they contained, but thought that medical advisers should be informed in confidence what the exact strength of the ingredients was. Referring to prosecutions against hairdressers, in every case it was absolutely necessary for the barber to be able to prove that he had taken every possible precaution in sterilizing his implements and using antiseptics to prevent the possible spread of disease. At the close of the lecture a hearty vote of thanks was accorded to Dr. Wolstenholme for his useful and practical address.

BIRMINGHAM.

GENERAL MEDICAL PRACTITIONERS' UNION.

THE annual smoking concert arranged by the Birmingham and District General Medical Practitioners' Union was held at the Midland Hotel, Birmingham, on December 2nd, and, in spite of wretched weather and several other social and political functions taking place the same night, attracted a large gathering. An excellent programme had been arranged, and full justice was done to it by the following ladies and gentlemen: Madame Marie Nock (songs at the piano), Miss Lillie Aston (soprano), Mr. Leslie Bartleet (pianist), Mr. Leonard Brown (tenor), Mr. Douglas Wakefield (baritone), Mr. Ernest Jones (banjo recitals), and Mr. Walter Newman (humorous selections).

While all turns were of a most attractive nature, special mention must be made of "The G.P.," sung by Madame Marie Nock, and the character sketch of Mr. Walter Newman, in which he was able to introduce some topical allusions which evidently appealed to the audience.

During an interval in the proceedings Dr. Langley Browne (president of the union), who occupied the chair, presented Dr. James Neal with an illuminated address, accompanied by a cabinet of table plate, which had been subscribed to by over 100 medical men practising in the district. Prefacing his remarks by congratulating the union upon its continued success, Dr. Langley Browne proceeded to ascribe this largely to the energies of Dr. Neal, who had been secretary of the union since its formation eleven years ago. Nor was this all that Dr. Neal had done for the profession. He had been a member of the Executive Committee of the Central Division of the British Medical Association since Divisions were formed, holding the office of Chairman for twelve months. He was now the Representative of that Division, and had recently been elected a member of the Central Ethical Committee of the Association. He had been on the committee of the Birmingham Medical Institute for many years and was a vice-president. Dr. Neal's constant endeavours had been directed towards securing adequate recognition for the general practitioner, and in doing so he had devoted an enormous amount of time to the uphill task of medical reform. He asked Dr. Neal to accept the address and presentation as a small token of the regard in which all branches of the profession held him, and of the appreciation they felt at his efforts.

Mr. George Heaton associated himself with the remarks that had fallen from Dr. Langley Browne. It was, he said, some twenty years ago that he and Dr. Neal had first been associated at the old General Hospital in Birmingham, and the friendship then formed had never been interrupted. He could not understand how Dr. Neal got through all the work he did, but supposed he was another example of the fact that the busiest man is always able to find some spare time. He considered that the work Dr. Neal did for all branches of the profession in the many offices he held was of incalculable benefit to it, and he hoped that the presentation made would convince him that his medical friends and colleagues so regarded it.

Dr. Neal, whose rising was greeted with prolonged applause, said he regarded it as a very high honour and distinction to receive such a token of appreciation from his medical friends and colleagues, and it was to him the greatest possible pleasure to have such a substantial assurance that the work he had done in the interest of the profession had met with such genuine approbation. He could not help feeling, however, that to some extent the importance of his work had been over-estimated, for although he had always done his utmost to improve the organization and status of the general practitioner, and to promote good feeling

and fair dealing between the different branches of the profession, still he realized that his efforts would have been of little value except for the able assistance and loyal co-operation of such men as Dr. Branson, Dr. Lydall, Dr. Parsey, and many others. This occasion, he said, was a red-letter day in his life, and he desired to thank most heartily all who had contributed to such a generous recognition of his services. He would especially thank Dr. Langley Browne and Mr. George Heaton for the very kind way in which they had made the presentation, and for their very flattering remarks. But he felt that no words could adequately express his gratitude. He would only assure them that the recollection of that evening would always be retained in his memory, and that the address and presentation would always be his most valued possessions.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ROYAL INSTITUTE OF PUBLIC HEALTH.

A PUBLIC meeting was held in the Mansion House, Dublin, on November 30th, for the purpose of appointing a committee to make arrangements for the visit of the Sanitary Congress of the Royal Institute of Public Health next summer. The Lord Mayor, who presided, said that the Congress would find in the slums of Dublin and in the tenement system sufficient material for consideration, and he deplored the fact that the Corporation were invested with such insufficient power to deal with slum property. On the motion of Dr. McGuiness, those present were formed into a general committee to make arrangements for the meeting, and it was also resolved that the use of the halls of Trinity College should be asked for the purpose of the Congress, and that the Right Hon. Viscount Iveagh should be requested to act as President.

A "NERVE SPECIALIST."

Recently, at a special court in Granard, a Mr. Fenley St. Clair, an Australian, was brought up on remand charged with obtaining money under false pretences from Thomas Kiernan and others by falsely representing himself as a tooth and nerve specialist. On the evidence of Mr. Kiernan the accused pretended to extract nine nerves from his (Kiernan's) teeth, and had been paid 7s. 6d. for so doing. The case had been remanded from the petty sessions on the application of the Crown, to permit the production of expert evidence as to the alleged nerves. Dr. Edmund Tapper, to whom the bottles containing the supposed nerves had been submitted, deposed that as a result of a chemical and microscopical examination he had found no trace of nerve structure. The accused was returned for trial, and subsequently at the assizes produced a paper which he said showed that he was qualified as a dentist in New South Wales. The case was finally dismissed on the accused giving his own recognizances in £20 to come up for judgement when called upon.

ASSAULT ON A MEDICAL MAN.

On November 30th a summons was heard at the Southern Police Court, Dublin, at the instance of Sir William Smyly, against a lady who had assaulted him in the street. The complainant stated that on the previous Sunday the defendant met him and began to abuse and curse him. Later she struck both himself and his son. The defendant had threatened him on previous occasions. It appeared that the defendant had been in the Adelaide Hospital under Sir William Smyly's care, and had, probably as a result of the state of her health, taken exception to her treatment there. An apology was tendered by her solicitor on the defendant's behalf, and a fine of 40s., with the alternative of a month's imprisonment, was imposed by the magistrate. Sir William Smyly is to be congratulated on his prompt action in relation to this disagreeable incident.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

GLASGOW.

Proposed Notification of Infantile Ophthalmia.

DR. JAMES ERSKINE, one of the Town Councillors of the city, has given notice that he will move the following motion in the Town Council:

> That with a view to preventing blindness resulting from infantile ophthalmia, the Corporation, as local authority for the City and Royal Burgh of Glasgow under the Infectious Disease (Notification) Act, take the necessary procedure for having that affection included in the list of diseases compulsorily notifiable within their district.

Treatment of Phthisis a Municipal Duty.

At the thirty-ninth annual meeting of the Orphan Homes and Consumption Sanatoriums of Scotland held in Glasgow on November 30th, ex-Baillie J. P. Maclay, in submitting the report for the year, said the time had come when the Corporation of Glasgow ought to do something in connexion with the treatment of consumption. More slums were being made in Glasgow than were being taken away from it, and so long as that went on he did not think that consumption sanatoriums could expect the demands on them to become less. The problem in Glasgow should be properly tackled at once. Mr. Cameron Corbett, who also spoke, said that from every point of view the treatment of consumption ought to be a municipal work. If a man happened to be a pauper lunatic every scientific remedy was placed at his disposal, but if he was an artisan upon whose life the interests of his family, and in a measure the welfare of the community, depended, he could not receive the treatment which phthisis required. Sanatoriums were required for cases admitting of cure, and hospitals for the more advanced cases, and that was a burden which ought to be borne by the community.

Medical History of Glasgow.

A most interesting lecture was delivered in Glasgow, on November 29th, by Dr. James Erskine, on the medical history of the city. The lecturer sketched the origin and development of hospital and medical treatment from pre-Reformation times to the present day. He treated the subject under the heads of Parochial, Municipal, and Voluntary provision, and showed that with the exception of the charities, medical assistance was already supported by public assessment. The lecture was illustrated by lantern slides and diagrams.

Eastpark Home for Infirm Children.

The Lord Provost of Glasgow has interested himself in the movement to provide a cottage home in the country in conjunction with Eastpark Home, and at a drawing-room meeting in the City Chambers, on November 29th, the project had a splendid send-off. Eastpark Home was established in 1874, and exists for infirm children who are unsuitable for the Sick Children's Hospital, but not incurable. It has rendered incalculable service in alleviating and curing hundreds of children belonging to the poorer classes, who were afflicted with serious physical infirmities and diseases, and it is the only institution of its kind in Glasgow. For such cases a country cottage home is urgently needed to relieve the pressure on the accommodation in the existing institution, and afford more healthful surroundings for the treatment of tuberculous and other similar cases. A bazaar will be held in October next, and in moving a resolution commending it for support, Sir George Beatson said the home was taking its share in work for the welfare of the child life of the nation. At the same time a good deal of the work was palliating mischief which had already been done. Many of the cases were the results of remediable causes—young, hasty, ill-considered marriages, defective parental health, intemperance, etc. The teaching of social reformers who held that environment was everything in the case of individuals, was not the best

guidance. Heredity must also be taken into consideration. Social legislation of the future should be based on the fact that children had a prescriptive right to be born healthy in body and in mind.

Treatment of the Feeble-minded.

Dr. R. D. Clarkson, Larbert, delivered a lecture at Glasgow University on December 2nd on the present treatment of the feeble-minded. Heredity, he said, was a most important influence in bringing about feebleness of mind, but a great many of the people who were stated to be hereditarily feeble-minded went wrong not so much from anything inherited as from the manner in which their feeble-minded parents brought them up. They found just as many feeble-minded in the wealthy parts of towns as in the slums, and rather more in the country than in towns. He urged that there should be some authority to look after the feeble-minded children of the well-to-do. He dealt next with the treatment of the feeble-minded by one or other of the four authorities—the school board, the Lunacy Commission, the Prison Commission, and the parish council—and said that nearly every one seemed to be agreed that if the feeble-minded were to be taken proper care of two main principles must be followed—unity of control and continuity of policy. The present system was utterly indefensible, costing a vast amount of money and doing incalculable damage to the next generation. The feeble-minded ought to be prevented from having children, and that could be done only by segregation. He urged that the recommendations of the Royal Commission which reported in 1908 should be carried on to the Statute Book as soon as possible.

Old-time Public Health Administration.

Dr. Hugh A. McLean, whose antiquarian researches in the domain of medicine have already been referred to in the JOURNAL, recently delivered a lecture in the Trades Hall, Glasgow, on A Review of the Public Health Administration in Glasgow. He quoted the opinions of early visitors to Glasgow, showing how they united in praising the natural beauty of the city and the salubrity of its atmosphere. A series of extracts from the old burgh records showed the civic treatment of certain diseases. In 1574 protective measures were in vogue against plague, and the measures for its treatment were, in theory, not improved upon even to-day. These included compulsory notification of all sickness, house to house visitation, districts mapped out and quartermasters (sanitary inspectors) appointed to watch each district, compulsory removal of rich and poor alike to the isolation camp on the town's moor with the corollary of treatment and upkeep at the city's expense, the appointment of a superintendent to manage the camp and of a councillor (in rotation) to visit the camp twice or thrice weekly, and the cleansing of infected houses and clothes and removal in enclosed carts of infected filth. The lecturer dealt also with leprosy, describing the old leper hospital and the regulations imposed upon all sufferers from this disease. By means of coloured diagrams he contrasted the health of the city in 1775 and 1885. In 1775 the general death-rate was 31.25 per 1,000, in 1885 it was 24.6 per 1,000, and last year 18 per 1,000. Deaths from zymotic diseases in 1775 were 39.75 per cent.; in 1885 the percentage was 16.2. The percentage of deaths from respiratory diseases, however, rose from 19.35 in 1775 to 35.21 in 1885, the increase being due to the increased density of the population. The rise and progress of the industrial development of the city was sketched, the great increase in population, and how this, in conjunction with the absence of water supply and the filthy habits of the people, brought repeated epidemics of typhus and cholera. The former treatment of these scourges was reviewed, the stirring of the civic conscience, the appointment of a "committee of nuisances," and eventually of a medical officer of health. Cholera disappeared when the city ceased to use for domestic purposes the sewage-polluted water of the river and started to use Loch Katrine water. For typhus there was no regular line of treatment, but only the panic treatment of each epidemic as it occurred. Until the people ceased to tolerate filth and overcrowding no satisfactory treatment could be adopted. This condition was contrasted with the condition to-day, when the weekly death-rate was at times as low as 12 per 1,000. The lecturer sketched the gradual development of the public health organization, the operations of the City Improvement Trust, the opening of the first municipal fever hospital, and the recent movements for the purification of the atmosphere. In concluding, he said that the nearer sanitary perfection was approached, and all that this term implied, the more secure became the foundation on which we rested, morally, physically, socially, and nationally.

THE POSITION OF WOMEN: ACTUAL AND IDEAL.

The sixth of a series of lectures on this subject was given in Edinburgh on Monday, November 28th, by Dr. T. S. Clouston, whose subject was The Psychological Dangers to Women in Modern Social Development. Dr. Byrom Bramwell presided.

There were, the lecturer said, no definite means of testing the intensity of the emotions. Tests showed that bodily sensation was somewhat less in woman than in man. If the intensity of the emotions was tried by its expression in poetry, which was the literature of feeling, man had given greater proof of a greater depth of feeling than woman, but that might be because his power of literary expression had been more developed. Man, it was said, had more power of control of the outward expression of emotion than woman. If true, that had many social aspects and some dangers. Woman educated by modern standards was gradually acquiring more power of controlling her emotions, up to a certain point at least, and that could not fail to have a steadying effect on woman. It was when they came to the emotions and actions connected with the maternal instinct that the real crux as to the effects of modern social developments on the sex was reached. The great question was whether there was anything in modern social developments that did or would be likely to change, lessen, or destroy the maternal instinct. Ominous ideas were abroad on the subject. Sir James Crichton-Browne had boldly stated the other day that professional women, namely, those who had devoted themselves during adolescence to hard study and had attained the highest culture that modern education could give, were having few children, and did not want to have many. Statistics seemed to bear that out. If it were true, there was something radically wrong with the culture of young women, or with their mode of acquiring it. Far better for them to have health and ignorance than that. Thirty years ago he said to his audience at the Philosophical Institution that "there is no time nor place of repentance provided by Nature for some of the sins of the schoolmaster," and at the same he asked "Why should we spoil a good mother by making a bad grammarian?" Even the slightest diminution of the maternal instinct was dangerous. The ideals that would exalt culture above motherhood were suicidal and should be abandoned. On the other hand, mothers of high brain power were as much needed for the advancing races as fathers—rather more so in fact. Choices might be made, but they would have to be on the lines of evolution. The problem was a very difficult one. He thought enough was now known to show that to subject 100 girls of more than average ability to the stress of modern study and competitive examinations was attended with the risks of atrophied maternal instincts, loss of feminity, and a lessened development of "woman's ways" in a considerable number of the 100 who might, but for the conditions under which they passed their adolescence, have possessed these gifts. The delicate graces and the subtle feminities that attracted the other sex were sometimes not conserved or stimulated in the strenuous life of the student. They were, in fact, frequently neglected, or even held as despicable and unworthy. The social instincts were sharper in woman than in man. He thought the higher education in some ways lessened the craving and necessity

for social intercourse. He believed that woman was frequently not talked of, and even not treated, by men with that form of practical idealism which was the basis of chivalry, and that some matters were now openly discussed by women in much-read books and in personal intercourse which would have shocked a modest woman of fifty years ago. Both tendencies were absolutely evil. The special qualities of man and woman were complementary, and were both needed for the evolution of the ideal society of the future. Changes should be gone about in a scientific spirit, and the equality of the sexes should be limited to opportunity and social position, and should not be attempted as to faculty and instinct.

RADIUM AND X RAYS.

At a meeting of the Royal Scottish Society of Arts at Edinburgh on November 28th, Dr. Dawson Turner read a paper on a comparison between the physical and physiological properties of *x* rays and radium rays. In their nature and mode of production, these rays, he said, were entirely different. The *x* rays were regarded as consisting of short pulsations of the ether produced by the sudden stoppage of the cathode stream. For their production powerful electric apparatus and highly exhausted vacuum tubes were required. Radium gave off spontaneously and continuously three kinds of rays and an emanation of gas. The alpha rays of radium were projectiles fired out by the radium as though it were a perpetual Maxim gun. A grain of radium expelled each second about ten thousand of these particles, which were undoubtedly composed of the element helium. The beta rays were also projectiles which radium was shooting in every direction, but they were much smaller than the alpha particles, and they had about ten times the initial velocity. Their speed was so great that they would go round the world six or seven times while one snapped one's fingers. They consisted of electrons, or disembodied units, of negative electricity. The gamma rays might consist of pulses in the ether, or of neutral particles of electricity. The emanation was of a gas of an inactive nature belonging to the argon group. In many of their physical properties the *x* rays and radium rays resembled each other. They both produced ionic, fluorescent, and photographic effects; but radium, in addition, produced both light and heat; it decomposed water, oxidized metals, and disintegrated cotton, wool, paper, and indiarubber. The heating effect was very great, and it led Professor Rutherford to calculate that a gram of radium contained a store of energy sufficient to raise 500 tons to a height of one mile above the earth's surface. An important physical difference was found in their relative penetrative power and in their magnetic deflectibility. The *x* rays had more penetrative power than the alpha and beta rays, but decidedly less than the gamma rays; the *x* rays could be used to take radiographs of the bones of the living body, while radium rays could not. It was remarkable that the *x* rays, which were the first to be discovered, should be endowed with exactly the right degree of penetrative power to enable us to see shadows of our bones. Had it not been for this singular property they would hardly have excited the same amount of public attention. It was difficult to institute a comparison between the physiological properties of *x* rays and radium rays, because the subject had not yet been thoroughly worked out. Both produced burns if applied in a sufficient dose to the skin. *X* rays had a selective action on the bones and retarded their growth. Radium rays more particularly attacked nervous tissue; the central nervous system and the spinal cord were very susceptible. Small animals exposed to the emanations of radium were seized in a few hours with convulsions and paralysis, and soon died. Minute haemorrhages were always found in the brain and cord with degeneration of the blood vessels. *X* rays could arrest the development of the brain of a young rabbit. They seemed to have little or no effect on bacteria, but radium rays and emanation were markedly destructive. Anthrax, typhoid, comma, and diphtheria bacilli were rapidly killed. Even snake venom was found by Phisalix to lose its toxic nature under the influence of radium emanation. It was possible that mud baths, which had for a long time been in vogue at certain health resorts, owed their beneficial results to the presence of traces of radio-active substances. The same might be said of certain mineral waters.

DUNFERMLINE AND ROSYTH.

The Corporation of Dunfermline has lodged parliamentary plans regarding the proposed new drainage area and extension of the town. Two years ago the problem of draining the area between Dunfermline and the Firth of Forth was under consideration, as in this area the new town in connexion with Rosyth dockyard will be raised. At the instigation of the Dunfermline authorities a joint committee of the various parties interested was formed, and a comprehensive drainage scheme was formulated with an outfall above North Queensferry. After prolonged negotiation as to the possibilities of joint action, Dunfermline now proposes to assume sole responsibility for the execution of the scheme, and at the same time desires to be entrusted with the administration of the area to be drained. The Corporation has, therefore, given notice of its intention to promote a provisional order, having as its object the extension of the burgh boundaries to include Rosyth district, and the authorization of the main drainage scheme for the burgh and extended area. The estimated cost of the drainage scheme is about £120,000.

THE MILK SUPPLY OF EDINBURGH.

Edinburgh and Leith Medical Practitioners' Association has unanimously passed a resolution:

> That much of the milk supplied in Edinburgh is unsatisfactory in quality, and that it is necessary that there should be an adequate inspection and supervision of it.

In order to add to the weight of the resolution when it is sent to the Town Council, postcards have been sent out so that all the members of the association may give their opinion.

ROYAL VICTORIA HOSPITAL FOR CONSUMPTIVES, EDINBURGH.

On December 2nd the patients in the Royal Victoria Hospital for Consumption made a presentation of two portraits to the hospital, one of Queen Victoria and one of the late King Edward. Sir Alexander Christison presided and Mr. J. A. Scott made the presentation on behalf of the patients. The Chairman said it was gratifying to know the kindly feeling made manifest by this gift, and he and his colleagues greatly appreciated the presentation.

Special Correspondence.

PARIS.

"606."—*A New Neurosis.*

PYTHAGORAS, Philolaus, and Archytas all preached the wonderful virtue of numbers. The astrologers of Chaldea—*Babylonios tentaris numeros*, as Horace says—read the secret of our destinies in different combinations of figures. It must be admitted, even by those who are not prepared to go so far as to look upon them as the principles of human affairs, that numbers exercise a strange, almost mysterious, influence on the mind of man—an influence that imaginative literature knows how to put to use. At present, as every one knows, one number has recently done a very bad turn to the eminent Professor Ehrlich in France. Of course, I speak of number "606." At first sight this appears harmless enough, and Ehrlich could not foresee the disastrous consequences of giving this name to his recent discovery, "diamidoarsenobenzol," though his attention should have been aroused by this fact, that the name of his Japanese collaborator, Hata, never succeeded in

getting itself substituted in place of "606" as a designation for this product, the chemical name of which was beyond the ordinary powers of human articulation. This fact alone proves a strange power of resistance; but it was not until its fame crossed the French frontier that number "606" showed its full malignity. The discovery for which it stood all at once assumed a romantic aspect which caused the world of savants to take up arms, and when this number appeared at the head of columns in such papers as *Le Temps*, *Le Journal*, or *Le Matin*, a shudder of horror ran through the whole world of syphilitics. An unreasoning distrust followed the first outburst of legitimate enthusiasm, and people began to note that these mysterious figures were quite cabalistic. In the first place, why was it in its triad of figures so extraordinarily symmetrical? Why did it give itself the appearance of wishing to symbolize by the middle zero the annihilation of the pale *Treponema* held between the two sixes as between two policemen? Why did it recall the sensational "813," which Arsène Lupin, gentleman-burglar, had given as the title of his last exploits? Had we not already read of the "628-E8" of that great ironist, Mirbeau? Did there not remain to us the recollection of the *dossier* "113" of Gaboriau, forerunner of authors of detective fiction? Hum! All that was very literary, and a great surgeon, inventor of two or three serums and vaccines, on the ground of certain exaggerated or inaccurate statements in the lay press, sharpened his pen, already as keen as a scalpel, and took the field. Happily he came back before he had done any mischief. The high scientific probity of Professor Ehrlich, and the indisputable value of his work, the reports of facts by numerous conscientious clinicians, put things in their right light. The form in which the precious discovery was promulgated was forgotten, and the medical press reclaimed what belonged to it from the daily newspapers. The study of the new remedy was pursued with the proper calm, and dioxydiamidoarsenobenzol will soon take its place beside older remedies such as mercury, atoxyl, hectine, with its own efficacy, and its special indications. Thanks to it chemiotherapy, which has almost specialized itself on the territory of syphilis, has just made a step in advance. Serumtherapy must not lag behind, and it will be able to vindicate itself. Nevertheless, it must be emphasized that a medical discovery has nothing to gain from premature publicity, that scientific men must more and more distrust the professional indiscretion of newspapers which, owing to the parliamentary recess, are short of copy, and that the right appreciation of their work runs the risk of being wrongly influenced by sensational headlines. To conquer the reason it is dangerous to use even involuntarily the same methods that are employed to seduce the imagination.

As a triumph has been scored over one disease, it was but fair that some compensation should be made to medicine. A new one has, therefore, been invented in which again, strange to say, we discover the influence of numbers. This is the neurosis of telephonists. This might have been foreseen. To place women, who, as is well known, have not that mathematical spirit spoken of by Pascal, in presence of inert and unsuggestive arithmetical abstractions, to shake up their sensibility by sharp ringings, and to make their dainty dreams constantly come into collision with the obsession and brutality of figures, and not even figures—simple numbers—is deliberately to put them in the way of nervous breakdown. Is there, however, any ground for making a new nosological species—telephonitis or telephonosis? Unquestionably not. The telephone does not imprint a specific character on the affection. It is simply a new cause of nervous disorders, such as science brings into being with almost every one of its applications. But this new etiological factor is very powerful, inasmuch as it may cause hysteria, neurasthenia, tachycardia, insomnia, or, on the other hand, a kind of sleeping sickness, in which, according to Dr. Thébault, the unhappy girls sleep on their feet, lose the power of distinguishing their "jacks," and place their pegs at haphazard for the greater satisfaction of the subscriber, who is storming at the other end of the wire. They are fortunate if he is a doctor, who, knowing such pathological contingencies, philosophically picks up his receivers saying, "I will not insist further. I know what is the matter. It is another case of allopathy." Here the remedy is clearly indicated, and one must not think of suggesting to the poor overworked telephonist a medicament ticketed with a number. What is needed is a cure of "denumeration." It is necessary for the patient to live in the open air, in the quietest and most retired part of the country, preferably in a small island not reached by the electric wire and disdained even by the hertzian waves. Moreover, there seems to be little doubt that with the progress of civilization we shall soon be obliged, in order to re establish the equilibrium of our sensibility torn to pieces from all sides, to go every year through a season of barbarism. In vain will infectious diseases have disappeared. Our nerves, brought in contact with vibrations and waves from which Nature had carefully isolated us, will be the prey of new tortures. This will doubtless take place about the year two thousand six hundred . . . Great Heaven! I was on the point of ending with a number!

Correspondence.

STATE SICKNESS AND INVALIDITY INSURANCE.

SIR,—I am sorry again to have to traverse Dr. Buist's statements. Last week it was his logic which was at fault; this week it is his mathematics. He says in his letter in the BRITISH MEDICAL JOURNAL of December 3rd, 1910:

> On Dr. Fothergill's figure of 10s. per head I had an idea this was Dr. Taylor's figure the income of a doctor who was responsible for the domiciliary treatment of an average parcel of 1,500 members of the population would be £750, and if he were popular enough to draw his patients from a parcel of 2,000 he would have exactly £1,000 a year, and would know that it was secure as long as his personal relations to his patients were satisfactory. Possibly some members of the profession would be willing to give their whole time at this rate.

I have very little doubt that a good many of the profession might be induced to adopt contract practice and put up with all its drawbacks for a guaranteed income of £1,000 a year. But there are one or two rather serious errors in the calculation. First, there are between 30,000 and 40,000 practitioners in this country, and if each of these is to have 1,500 to 2,000 clients, as Dr. Buist calculates, $30,000 \times 1,500 = 45,000,000$; $40,000 \times 2,000 = 80,000,000$. I understand Mr. Lloyd George is only providing for 15,000,000; at all events, the total population of the country is only 45,000,000. So evidently Dr. Buist is considerably out in his calculation.

But, again, does Dr. Buist suggest that we shall ever get 10s. per head *all round*? Some of the 15 millions to receive sickness benefits will be women and children (who will get considerably more attendance than the men), and does he suggest that a man with a wife and twelve children will have £7 a year paid for medical attendance alone for himself and family? I very much doubt it, and I think if Dr. Buist will just consider such a case he will also see that he is again making an unwarrantable assumption. I make it that 10s. per head on 15,000,000 divided amongst 40,000 practitioners gives £187 10s., which is a very different figure from Dr. Buist's; but as we should certainly not get 10s. per head for every woman and child, the real figure would be very much below this. We must really ask Dr. Buist to be a little more careful when he undertakes to instruct us.

I do not base my opposition to contract practice, however, merely on the *amount* of remuneration; it is on the *principle* of remuneration. I do not use as an argument that we shall make more by one method or the other; but I do say, and as far as I can see everyone agrees with me, that payment per attendance, with free choice on both sides, is the fairer and juster method, that it preserves our own and our patients' independence, and favours a higher standard of practice all round.

I claim that it *is in the interests of the community even more than of the medical profession* that the principle of

payment according to work done—that is, per attendance—should be adopted in any scheme of State sickness and invalidity insurance. I therefore ask the members of the Special Poor Law Committee to consider very seriously before they send down to the Divisions with their imprimatur a scheme of contract practice to which they are opposed in principle.

Also I would ask, in common fairness, that the alternative scheme of payment per attendance should also be submitted to the Divisions. I would finally urge that no deputation should wait upon the Chancellor until the whole question has been fairly considered by the Divisions—if possible at Divisional meetings, to which non-members of the Association should be invited—and until a decision has been arrived at by the rank and file of the profession.

I agree that the matter is urgent, but there is plenty of time for this to be done, special meetings being called if necessary, but once we are committed to a contract scheme it will not be easy to shake off our fetters.—I am, etc,

Bowdon, Dec. 3rd. P. R. COOPER.

SIR,—As it has been suggested that "Representatives are wedded to payment *per capita*," and as the discussion is important, perhaps you will permit me to express my views as briefly as may be.

Dr. Buist deals with matters which primarily and chiefly concern the Government; and as the Government will doubtless be found capable of managing its own affairs without our assistance, I shall not offer any opinion upon the important points which he has raised.

But we can, I think, render the Government some assistance in its attempt to provide efficient medical attendance on the sick poor by pointing out clearly to it the conditions under which efficient work is most likely to be done. While I do not mean to say that all club work is bad and all private practice is good, I challenge serious contradiction when I assert that club patients, as a class, are not so carefully treated as private patients.

The Government proposes to deal with the medical treatment of some 15,000,000 of people, a large number of whom are at present dealt with in private practice. If payment for attendance on these people is made on any system of capitation, it means that a large number of persons now treated as private patients will be transferred to the class of club patients. I think that will be bad for them and, perhaps, worse for us. Worse for us—not from a pecuniary standpoint.

On that point I have no data upon which to form an opinion; but worse for us is the temptation it affords for more slipshod work and consequent depreciation in our own self-respect. It is quite true that the mode of payment will not make a man a scientific enthusiast; neither will it make him honest and conscientious. These things cannot be purchased, but time and care can. It requires scientific enthusiasm *plus* time and care, and perhaps some other things, to make an ideal doctor; it requires a moderate amount of science *plus* time and care to make a reasonably efficient practitioner; and I should imagine that is the type of man the Government want.

Now it is admitted that more time and care will be given if payment is made for work done. Indeed, it has been alleged that more attendances will be given under this system of payment than are required—that some men, for the purpose merely of making money, will give more time to their patients than therapeutic considerations alone would necessitate. That is probably true. It is equally true, however, that men who are inspired entirely by commercial ideals will give under a capitation system of payment the minimum of time and care which will secure the retention of their emoluments.

If there is a danger that commercial practitioners will cheat the Government out of money, can this type of man be trusted not to cheat his patients out of the time and care to which they are entitled if he be paid a lump sum? I think all who are acquainted with the exacting nature of efficient medical work will reply in the negative. If this reply be correct—and I submit its correctness is not open to reasonable doubt—it follows that if some of our colleagues be cheats, and if the Government desire a more efficient medical attendance upon the sick poor than obtains at present, they will have practically no option but to pay for work done. [The analogy between an efficient whole-time public health service and whole-time contract practice is, I think, invalid, owing to the fact that the conditions of work are so radically different.] It will remain for the Government to take such measures as may be necessary to safeguard the public purse against dishonest practitioners, who, after all, are surely a very small minority of the profession.

With regard to men who are influenced by scientific rather than purely commercialc onsiderations, it is certain, while human nature is what it is, that payment for work done will supply a stimulus in periods of disappointment and weariness; it will undoubtedly be a factor (not the determining factor, but still a factor) in getting the best out of a man of the best type.

I think, therefore, that in the interest of efficient medical work, and consequently in the interest of the sick poor, the position taken up and so ably advocated by Dr. Cooper:

1. As to payment for work done; and
2. As to free choice of doctor,

should receive the unanimous support of the profession.

One shrinks from complicating farther an already complicated discussion, but, if I might in a tentative manner venture to add a third desideratum of a really efficient medical service, it would be:

3. Some restriction of some kind upon the number of patients to be dealt with by each doctor.

Human energy, mental and physical, has its limitations. After a certain point, which of course varies in different individuals, the quality of one's work rapidly deteriorates. I feel strongly that the public would make a better bargain if they restricted our work and paid us better. They would be much more likely to get something of real value in return. Sweated medical work may be quite satisfactory from a commercial standpoint to the practitioner. It is of little (if any) real value to the public.

I submit that these three points are not merely matters of detail; they are intimately—indeed, one might almost say fundamentally—connected with effective medical work. They are, therefore, matters which at the present juncture are worthy of the attention, not only of the profession, but of the Government.—I am, etc.,

Manchester, Dec. 6th. J. STAVELEY DICK.

SIR,—I am really sorry to trespass upon your space again, but I feel that it would be wrong to let Dr. Buist's letter go unchallenged, not for its intrinsic worth, but because it shows the attitude taken by one of our Representatives.

Although the general tenor of Dr. Buist's letter is quite clear, the exact meaning of some sentences is most difficult to determine, and I should like to get to something definite on certain points.

In a former letter I asked Dr. Buist whether he was prepared to advocate steps being taken to obtain the view of the majority of that part of the profession—namely, general practitioners—who alone are affected (adversely) by this invalidity insurance scheme, and having obtained that view will he help the general practitioner all he can in its attainment?"

That question Dr. Buist has not answered. The next point which appears to be definite is his claim that both he and Dr. Taylor will never represent the profession, even if they find that my estimate of what the majority of the profession want is correct. This is a very serious statement and I am really surprised to find Dr. Taylor pledged to such a course.

In Dr. Buist's third paragraph he makes the remark, "It has been stated that the profession should not be asked to take the risk." Will Dr. Buist say definitely if he thinks that the profession ought to take the risk? as this, again, is a very vital point to the profession.

Coming to the practical illustration of Dr. Buist's *per capita* system, we find he assumes that 10s. per head will be paid. I much doubt it, but whether it is, anybody seeking the information can readily discover the exact sum payable to the doctors in any given district; and when a man has got a neat little "parcel" of 2,000 patients in a small area it will soon attract men who have not got such neat "parcels" from other areas, and the £1,000 per annum will soon have many newcomers nibbling at it, and

of necessity splitting it up. If, on the other hand, the "parcel" is in a rural district and spread over a considerable area of country, it will mean keeping an assistant and one or two motor cars to do the work for 2,000 people with unlimited credit on the doctor, will need a vast amount more attendance than the present private patients, and the £1,000 per annum will look a sickly sum when working expenses have been deducted from it.

The more one studies the two systems of payment the more unworkable does the *per capita* system appear; and Dr. Buist's sneer at the men who are trying to solve the problem in a statesmanlike manner, by calling them an "irresponsible and undefined group," is not the judicial or open-minded tone one associates with the requirements of a Representative.—I am, etc.,

Northwich, Dec. 5th. HENRY EDWARD GOUGH.

INSTRUCTION IN ETHICS.

SIR,—I shall be obliged if you allow me to make two corrections in the report of a speech I made recently at the General Medical Council, which appears in the SUPPLEMENT to the JOURNAL of December 3rd. I am reported as having said that advertising should be done publicly, whereas I deprecated any procedure of the sort. The reference to advertising arose from my contention that we have special rules of ethics in our profession which it is necessary that its members shall know, and that an indulgence in this practice of self-laudation brings those who adopt it under the penal laws of the General Medical Council. Some of the members of this body, in the discussion following the speech I made on introducing my motion on an instruction in ethics, stated that the golden rule of doing to others as you would be done by covers the whole subject. My contention is that this is not the case in its entirety. Over and above this golden rule is the fact that certain procedures which are not wrong in themselves are regarded in that light by the governing body of our calling. The ban on advertising is just one instance in point. In commerce it is extensively used, and its practice is commended. In an honourable profession, such as ours is, it is rightly regarded as being injurious both to the public and to ourselves, for an indulgence in it can only lead to the self-laudation of those who advertise, and to the detriment of the self-respecting, scientific worker who cannot, with any regard to propriety or truth, adopt such methods of getting on in life.

Again, I am reported to have said: "With regard to the time when the instruction should be given, he thought the post-graduate period would be the most convenient." This is exactly the opposite of what I remarked. I advocated a short lecture or two being given to advanced students, saying that that was the appropriate time for such instruction, before they left the medical schools. Very few men, I stated, went in for post-graduate courses, and these men, inasmuch as they were mostly of a scientific type who were looking to professional advancement by perfecting themselves in knowledge, were the very ones who were unlikely to require any teaching of the kind I was suggesting.—I am, etc.,

Swansea, Dec. 5th. H. A. LATIMER, M.D.

ALCOHOLISM AND DEGENERATION.

SIR,—Sir Victor Horsley and Dr. Mary D. Sturge say that I now admit that Miss Elderton and I never ascertained in beginning our investigation, "the essential datum whether the alcoholism in the parents came before or after the child." I have, of course, made no such admission at all. I have pointed out that if Sir Victor Horsley had statistical training he would be able, as we did, to see from our material that there had been no appreciable transfer of parents during the school lives of the children from the non-alcoholic to the alcoholic sections. Further, I have asked him why, when he accuses us of working without what he deems an essential datum, he quotes with approval Dr. MacNicholl, whose papers do not even allow of our measuring the possibility of this transfer, for he gives in no case the ages of his children. Sir Victor has *not* yet answered that question.

Now, Sir, this is really a very important illustration of a principle of which, owing to your courtesy, I have been able recently to give other samples. Sir Victor Horsley is a most distinguished surgeon, and on points of surgical manipulation his mere judgement is, I have no doubt, of value. But in certain chapters in his book on alcohol he appraises the value of evidence in a field where he has had absolutely no training. He presumes to discuss dogmatically, as in his letter to you to day, what is and what is not deducible from statistical evidence. In this field I have no hesitation whatever in saying that his judgement carries no weight beyond that of any man in the street, that is, it has just so far weight as he has logically demonstrated it. An *ex cathedrâ* statement is purely idle. His mere reiteration of the statement that our memoir on alcoholism is valueless is entirely worthless until Sir Victor Horsley faces the actual figures given in that memoir. It is not a question of skill in surgical manipulation, it is a question of skill in interpreting figures, and, therefore, the mere dogmatic opinion of Sir Victor Horsley carries, on this point, no weight whatever in the scientific world.

The medical profession is learning to recognize the vital fact that, until the statistically trained medical man is produced, there must be joint work for statistician and medical man in their common field. In neither statistics nor medicine can a man, without training in the one or other of these branches of science, any longer afford—for the sake of his own reputation—merely to reiterate that this or that is nonsense, that this or that has no scientific basis, without daring to face the logical argument presented to his notice.—I am, etc.,

KARL PEARSON.

Eugenics Laboratory, University of London, Dec. 3rd.

SIR,—I beg to submit a few figures which may be of interest with reference to the subject under discussion. (See table at foot of page.)

It will be noticed that the excess of incidence is on the elder born. Jules Voisin, in his *L'Idiotie*, accounts for this fact as follows:

> L'homme était ivre au moment de ses premiers rapports avec sa femme et celle-ci reste écœurée, attristée pendant le début de sa grossesse, tandis que lorsqu'elle conçoit le second, elle s'est déjà habituée en quelque sort au vice de son mari, et n'a plus pour lui la même répugnance.

As, however, the excess of incidence is on the elder born, whether the parents are drunken or sober, it is difficult to see the necessity for the explanation.

That alcohol may play some part in the causation of mental defect would seem to be suggested by the following: Thus, of families in general in which idiocy occurred, of 378 "last-borns" 107 were idiots, a percentage of 28.3. In families where one or both parents was alcoholic, of 174 "last-borns" 61 were idiots, a percentage of 35.1.

Tuberculosis of the parents, still more than alcoholism, seems to be associated with a "closing" incidence of idiocy on the offspring. In families with a history of parental tuberculosis, out of 190 "last borns" 74 were idiots, a percentage of 38.9.

While we have at work in our midst such a powerfu factor for national degeneration—for the creation of mental defect—as the restriction of offspring, it seems

Table showing Distribution in Order of Birth of 191 Idiots Born of Parents one or both of whom was Alcoholic. A History of Parental Alcoholism was obtained in about 12 per cent. of Cases.

Order of births	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Idiots observed	50	43	26	18	15	15	7	7	3	1	2	2	1	0	1
Idiots calculated	35.7	33.6	30.4	25.4	20.3	15.4	11.1	7.8	4.1	2.5	1.6	1.2	0.8	0.6	0.4
Total offspring in each order of birth	174	164	148	124	99	75	54	38	20	12	8	6	4	3	2

a pity that so much attention has been and is being directed to factors which, granted they play a part at all, can only be of very secondary importance.—I am, etc.,

Lancaster, Nov. 30th. D. W. HUNTER.

SIR,—I shall be obliged if you will allow me, as a member of the Association, and also as a reader of the JOURNAL, to enter a protest against the somewhat pontifical pronouncement which Sir Victor Horsley and Dr. M. Sturge have uttered upon your editorial treatment of this problem.

The question whether alcohol imbibed by parents does or does not prejudicially affect their offspring is one of great scientific interest, in the first place, and, in the second place, it is a question the settlement of which has important bearings upon national welfare. A thorough discussion of the problem is, therefore, eminently desirable; and it is a matter which directly concerns your readers that the Editor of the JOURNAL should be perfectly at liberty to criticize unfavourably, either directly as Editor or indirectly as reviewer, any conclusions which may appear to be erroneous without being told that he is using the editorial column "in an undesirable manner."

Your reputation for impartiality in respect to the treatment of controversial topics is so well known that your readers may fairly resent this attempt to dictate to you the lines and limits of your editorial activity.—I am, etc.,

Brighton, Dec. 4th. R. J. RYLE.

THE APPOINTMENT OF MEDICAL OFFICER OF HEALTH FOR THE COUNTY OF BRECONSHIRE.

SIR,—On whom will the blame lie if the ratepayers do not get their money's worth, when the above appointment is filled up according to the advertised conditions?

The salary of £500 a year is to include expenses of travelling, etc., in a very large county, with very scattered towns and villages, and difficult and very faulty communications.

Under a temporary scheme the inspection of school children—enterers and leavers only—was carried out by local practitioners at a rate of 3s. 6d. a head, and 2s. 6d. mileage over one mile and one way. The fact that this examination last year cost more than the salary offered for the new appointment will indicate pretty fairly the amount of work that is in store for the successful candidate, who, it would appear, will have no assistance either for the education or the town-planning portion of the duties.—I am, etc.,

November 29th. MEMBER B.M.A.

EPSOM COLLEGE.

SIR,—I should like to say how entirely I agree with the writer of the letter appearing in the BRITISH MEDICAL JOURNAL of to-day (December 3rd), and signed "Parent, M.D., D.P.H.," which expresses exactly what I feel with regard to Epsom College.

As a parent I consider the Eton dress not only unsuitable but involving needless expense. During the holidays one is only too thankful to allow one's boy to be comfortable in a lounge suit. This necessitates a different set of clothes for the holidays, and a growing boy outgrows these clothes before they are worn out.

With regard to sleep I certainly think the little boys do not have sufficient, though personally I am very grateful to the matron of the lower school, who found when my boy started there at 9 years old that he required more sleep, and sent him to bed early. The medical inspection I think so necessary that my boy was thoroughly overhauled by a medical friend before returning to school, and was ordered to lie down for half an hour every day after dinner, with the result that his health has greatly improved. This is a most excellent plan, far better than exercise directly after a meal.

One other thing I should like to add: Why are the boys not taught dancing, especially the little boys, at a time when it is easy for them to learn? Besides being a healthy exercise, it would help to fit them for social life, so many evening parties for young people now have degenerated into card parties, which can come later in life, and I think the reason for this is because so few men can dance.—I am, etc.,

December 3rd. ANOTHER PARENT.

DR. HADWEN AND THE "CRIMSON CROSS REMEDIES."

SIR,—The correspondence which you have kindly published under the above heading leaves Dr. Hadwen in a sorry plight. At his own request I published a letter from him in defence of "The Crimson Cross Remedies" and in defence of an advertisement of those remedies in which his name appeared. I ventured to criticize that letter and to ask Dr. Hadwen a number of specific questions. He has written twice to the JOURNAL on the subject since then, and has has carefully avoided any reference to my criticism in detail, and now pleads that his "thick-headedness" prevents him from seeing "anything to reply to" in my letter. Dr. Hadwen's self-conviction of density is his excuse for not being able to comprehend the following, which are examples of the simple questions in my letter.

"Your name disappeared from the advertisement in the very next issue of the *Inquirer* after a reference to the 'humorous advertisement' in the *Jennerian*. Why?"

"You say the composition was long ago published in the medical press. Where?"

"Your large manuscript books are stated to contain information collected 'independently.' Are you prepared to state the actual source of this information?"

"By whom and for whom was this independent information collected?"

On another point mentioned in my letter the question was asked, "Does your large manuscript book contain any evidence on this point?"

Dr. Hadwen explains that he has no lack of desire to reply, but blames his "thick-headedness" for not seeing in these questions a single issue which he has not already answered, though he has not made the slightest reference to any one of them. This explanation is, indeed, the only one which Dr. Hadwen could expect your readers to believe, and, coming as it does from Dr. Hadwen himself, it can be accepted without offence. The simple questions above are described by Dr. Hadwen as "enigmatical queries," and yet he says he does "not propose to bandy words with Dr. Drury." In his complete surrender and capitulation Dr. Hadwen waves the white flag, and on the point of these questions announces that he leaves me "master of the field." He has invited me to go to Gloucester to see those manuscript books. I am surely entitled to an answer to the above questions without being put to the expense of a journey to Gloucester.

Dr. Hadwen's second point is that he has nothing to add to his defence of the Crimson Cross Remedies. That, of course, is not surprising. His third point is that he begs "to be excused" from defending his public offensive pronouncement containing one of the most scandalous attacks on the medical profession ever uttered. This was quoted in my letter of November 29th, and concluded with these words:

> . . . "There was no more dangerous set of people than medical men when they had the power against the bodies and the consciences of the people.

This had reference to "new professional methods," and Dr. Hadwen was speaking about the medical inspection of school children. Dr. Hadwen has now been challenged to defend this in the columns of the JOURNAL, where he has an audience of different calibre from the one before which he showed such bravery. His courage now fails, and while admitting the "quotation," he is cowed into retreat, which he covers by calmly begging to be excused.

Along with many other members of the medical profession, I have received challenges from the secretary of the National Union for the Abolition of Vivisection and from officials of the Antivaccination League, on behalf of Dr. Hadwen, to debate these subjects with him in public. My reply has been that if Dr. Hadwen wished to meet me I was ready with my answer, if he would approach me directly. For reasons best known to himself he has never done so. In my opinion Dr. Hadwen has no right to expect any member of the medical profession to meet him in public debate so long as he admits the correctness of the above quotation, and has nothing more to say of it than that he begs to be excused.

Dr. Hadwen remarks that this quotation has nothing to do with the subject in hand. I beg to remind him that he himself is one of the subjects in hand from the very first in this controversy. He accuses me of being "a bit

spiteful" "in firing this Parthian shot." This is intensely amusing. My spitefulness amounts to this—I simply quoted Dr. Hadwen's own words!—I am, etc.,

Halifax, Dec. 5th. ARTHUR DRURY.

ANAESTHETICS ACT.

SIR,—I wish to call the urgent attention of the profession to the suggested alteration by the Anaesthetics Committee of the General Medical Council in the rough draft of an Anaesthetics Act transmitted to them by the Lord President of the Privy Council (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, December 3rd, 1910).

According to this Act, a dental surgeon will be allowed to administer one or more of the drugs specified in a schedule for a *dental* operation, act, or procedure.

Now the suggested alteration by the above committee allows a dentist to administer for a legally qualified practitioner one or more of the scheduled anaesthetics in connexion with an operation, act, or procedure, *other than dental*, conducted by such medical practitioner. This alteration is unsafe for the public, not, I think, desired by the main body of dental surgeons, and unfair to the medical profession. Most medical men recognize that the administration of nitrous oxide gas and of local anaesthetics rightly forms part of the practice of the dental surgeon, and is reasonably safe. The fact that nearly all dental patients are fit enough to come to a dentist's rooms shows that they can with ordinary safety bear nitrous oxide or local anaesthesia, and we know that practically all dental operations can nowadays be performed by these means.

But any one who is called upon to administer nitrous oxide for general surgical purposes must be prepared to change to other anaesthetics and must be able to judge for himself of the state of the patient's heart, lungs, and other organs. The conditions of administration of nitrous oxide in dental and general surgical work differ very greatly, and we must remember that nitrous oxide mixed with oxygen is being increasingly used alone and in combination with other drugs administered by injection, such as morphine and scopolamine, or by inhalation, such as ether, for serious operations, and it is not right that dental surgeons whose experience is specially limited to the administration in the dental chair of certain drugs to comparatively healthy people should be allowed to administer them to patients suffering from all sorts of severe diseases and injuries and possibly under the influence of narcotics or shock.

I think, Sir, this matter is a very serious one for the public, the dental surgeon, and medical man, and I hope it will be fully discussed in the pages of your JOURNAL with a view to obtaining the deletion of the objectionable recommendation.—I am, etc.,

Birmingham, Dec. 6th. W. J. MCCARDIE.

PREGNANCY AFTER FALLECTOMY.

SIR,—In the BRITISH MEDICAL JOURNAL, November 19th, p. 1648, you refer to cases in which pregnancy occurred after division and and ligature of the Fallopian tubes, etc. You refer to one patient becoming pregnant *two months* after removal of the tubes, etc., and a second, three months after operation, and a third, several years after.

May I ask, has it yet been decided how long can an ovum remain in the uterus and retain its vitality? An answer to this might decide if it is not quite possible for many ova to remain in the uterus for months, arriving there *before* the tubes have been excised, impregnation taking place *after* the operation. We know so very little regarding the travelling power, staying power, and fertilization of the sperm and germ, that nothing is gained by mere dogmatism.—I am, etc.,

Liverpool, S., Nov. 24th. ROBERT R. RENTOUL.

It is not, we believe, certain how long an ovum can remain in the uterus and retain its vitality. Dr. Rentoul's theory explaining the significance of pregnancy beginning a few months after removal of the tubes is quite reasonable in respect to Dr. J. O. Polak's first and second case, but will hardly explain the third. In Meredith's case (Pregnancy after Removal of both Ovaries for Dermoid Tumour, JOURNAL, vol. i, 1904, p. 1360) the patient became pregnant one year and eleven months after the removal of a pair of dermoids, and in Doran's case (Pregnancy after Removal of both Ovaries for Cystic Tumour, *Trans. Obstet. Soc.*, vol. xliv, p. 231, and *Journ. of Obstet. and Gynaec. of Brit. Emp.*, vol. ii, p. 1, with notes on similar cases) pregnancy occurred two years after the second of two ovarian cysts had been removed. In neither could an ovum have lived so long in the uterus. In J. F. Baldwin's case (Pregnancy after the Removal of both Ovaries, *Amer. Journ. Obstet.*, vol. xlvi, 1902) a pair of cysts were removed during pregnancy, and within nine years the patient bore two more children. It is certain, as a fact above all theory, that the stumps of amputated Fallopian tubes may transmit ova. As regards the ovaries, "ovary" and "ovarian tissue" are not necessarily synonymous. In double ovariotomy for cystic disease both ovaries come away entire, but there may be ovarian tissue in the (utero-)ovarian ligament, or in the broad ligament, which escapes excision. When the uterine appendages are amputated for chronic inflammatory disease, a piece of one or both ovaries is often left behind, complete excision being hardly possible on account of the shortness of the pedicle. After both operations, however, the stumps of the tubes forming part of the pedicle sometimes manage to transmit ova, hence these remarkable pregnancies.

HYPERTENSION.

SIR,—I have read the admirable address on this subject by Dr. H. Batty Shaw (BRITISH MEDICAL JOURNAL, December 3rd, p. 1761) with great interest. Dr. Shaw deals very exhaustively with the causation of this condition, which he considers falls under one of two categories—mechanical or chemical. One class of persons who very commonly show hypertension are not specifically mentioned by Dr. Shaw—namely, the individuals suffering from neurasthenia, or conditions in which the symptoms are of a neurotic character. These cases are usually considered (for want of a more precise term) to be of a functional character. No doubt if their exact pathology was known they could be placed in one of Dr. Shaw's categories. But I have had now a considerable number of cases of this character referred to me by doctors during the last eight years, in which the medical attendant could not discover any organic heart, kidney, or liver disease. Most of the patients have been women, and the symptoms have been great nervousness, insomnia, sometimes gastric disturbances, and erratic pains in various parts of the body. The blood tension has varied from 130 to 180 taken by the Riva-Rocci sphygmomanometer. The normal tension is usually lower in women than in men, and naturally the corresponding ratio is considered in calculating the effect of treatment.

This brings me to a point Dr. Shaw does not mention, and which probably does not arise in connexion with the class of cases he discusses. I allude to treatment by electrical currents. I have found that by a twenty minutes to half an hour application of high-frequency currents by auto-condensation on the cover, or by an application of general static electricity for a like period, the mercury in the manometer falls 10 to 20 mm. It is true that it rises again, but not usually to the same level, and the gradual diminution after several applications becomes permanent. I have observed that where the condition has been associated with defective metabolism, high-frequency currents have been the most successful; but where the only discoverable symptoms were those of a nervous character static electricity has acted most efficiently. It looks to me as if the arterial tension in these cases is kept up by some toxic agent. At any rate, many of them improve in a really remarkable manner, the nervous symptoms, anorexia and insomnia, entirely disappearing. That the effect is not simply psychic is, I consider, amply proved by the sphygmomanometric readings.—I am, etc.,

Bradford, Dec. 3rd. JAMES METCALFE.

DRAUGHTS.

SIR,—In the correspondence which has been appearing in your columns concerning the effects of draughts, I have been surprised to notice the very general assumption that they directly cause attacks of fever in the human body. Now, in any seemingly more important department of medicine, different methods would be pursued and careful experiment would be made.

This is a subject in which I have for years taken special interest, made many experiments upon myself, and countless observations in others. And I have not the least hesitation in saying that (in spite of almost universal belief to the contrary) a feverish attack called "a cold" never does arise from exposure to a draught, wetting, or piece of damp clothing. Let me beg those who read this to experiment on themselves and to note the unintentional experiments performed by others. Though my observations extend over a dozen years of general practice, I have never yet met "a cold" which was not traceable by infection, nor found any of the exposures, which are generally regarded as very dangerous, to be followed by feverish attacks.

A draught, of course, may make one sneeze, may indeed be the means of conveying the catarrhal germs to the nostrils; but such occurrence must be rare. It can no more produce a catarrhal attack than it can produce scarlet fever. And as to its "predisposing" influence, if on *experiment* "a cold" is not found to follow exposure to a draught, there will be no need to call in "a lowering of resistance."

The importance of this subject is surely enough to justify the appointment of a special committee to examine, experiment, and take evidence. Erroneous belief can only lead to erroneous practice. As matters rest, our profession, whilst worshipping fresh air in theory, in practice largely avoids it. We certainly do not by our own example teach the public to prefer a draught to bad air; nor can we do so whilst we continue to believe that there is scarcely any malady which cannot be caused by the movement of a current of air of a certain temperature. A profession which is noted for its scepticism should not, surely in so important a matter, be content to rest its belief on mere inference and hearsay. I only ask for an open mind till experiment—in this case so easily made—show where the fact lies.—I am, etc.,

Sevenoaks, Dec. 5th. F. MARSDEN BURNETT

PUERPERAL FEVER.

SIR,—I have read the various lectures and letters written about puerperal fever, and the elaborate precautions recommended by certain medical men to overcome it. In my opinion, however, as one who has done a fair midwifery practice for the last twenty-seven years, the cause of puerperal fever is greatly due to ignorant midwives and nurses who are left to carry out the duties in their own way and without any supervision on the part of the medical attendant, who (especially if he is a young man) will generally think that when the baby is born the nurse can do the rest.

I would, therefore, venture to recommend to the medical attendant the following simple rules, and which I always adopt myself: (1) Always wash the patient yourself with disinfectants before leaving the first time, unless the nurse is well known to you. (2) Insist that all dirty clothes and diapers should be immediately taken away from the bedroom, and not left for a future occasion. (3) To find out whether the nurse uses the chamber with water when she washes the patient, and to insist upon it being discontinued if such is the case. (This is a very common occurrence even with experienced nurses.) There is a so-called "puerperal fever" produced by laceration of the perineum. The temperature does not usually exceed 102°, and becomes normal in three days. The abdomen, however, remains in the same condition. and the discharges are not diminished. These cases need not cause any anxiety, but could probably have been prevented if the perineum had been properly washed and disinfected by an experienced nurse.—I am, etc.,

Bristol, Dec. 4th. W. HOWARD CORY.

A PLEA FOR THE NASO-PHARYNX.

SIR,—With reference to your preliminary remarks in the article "A Plea for the Naso-Pharynx" (p. 1730), I would draw attention to the fact that the Royal College of Surgeons of Edinburgh requires candidates to be specially examined in a special branch of surgery for the Fellowship, such as aural, abdominal, ophthalmic, or obstetric surgery, in addition to the surgery, surgical anatomy, surgical pathology, etc.—I am, etc.,

November 29th. F.R C S.EDIN.(OPHTH. SURG).

THE BRITISH RED CROSS SOCIETY.

SIR,—I see the Red Cross Society has been requested by the Territorial Army Associations, at the suggestion of the Army Council, to provide organized assistance in the scheme of national defence.

A county branch has been started in Aberdeenshire, and the medical men have received a circular letter from the local president asking them to help in the work by giving courses of lectures on first aid and home nursing to those who may wish to join the movement, and I dare say very many medical men throughout Britain have been approached in this matter. I consider this matter one for the profession collectively; if the Army Council wishes the services of medical men in civil life to train civilians for work in war time, let it approach the profession directly, and offer them a suitable status in the scheme, and an adequate emolument for work efficiently done.

I myself should be inclined to amalgamate the Red Cross Society to the various ambulance associations in the country as a first step, and, using the local knowledge of the Territorial associations, appoint local skeletal units of officers (commandant, medical officer, pharmacist, quartermaster, and so on) with a definite status (rank and pay) in the new body, any equipment to be provided by the county and to remain its property.

From my experience in teaching first-aid classes I deprecate any shortening of such a course. One should work for quality not quantity. The textbooks used should be brought up to date, even rewritten if necessary.—I am, etc,

Meikle Wartle, N.B., Nov. 21st. ALLAN GRAY.

*** At the last Annual Representative Meeting (SUPPLEMENT, July 30th, p. 198) a discussion took place with regard to the fee for ambulance lectures given to the British Red Cross Society, when the following resolution was adopted:

> That a fee should be charged for ambulance lectures given to the British Red Cross Society, and that the fee should not be less than £1 1s. for each lecture.

THYROID EXTRACT IN RHEUMATOID ARTHRITIS.

SIR,—I have read with much interest Dr. Wilson's remarks on the treatment of rheumatoid arthritis by means of thyroid extract.[1] The idea is not new. Quite thirty years ago it was foreshadowed by Dr. Spender of Bath, and over twenty years ago Dr. Ed. Blake called attention to the coincidence of arthritis and myxoedema. The credit of emphatically advocating the use of thyroid extract in arthritis belongs as much to R Llewelyn Jones as to C. Macalister. I have for quite four years used thyroid extract when treating cases of arthritis deformans, and the results are gratifying. In many cases, long before the skin becomes dry and scaly, one can pinch up thick folds ever in emaciated subjects. Dr. Jones says that rheumatoid arthritis is more often associated with symptoms of Graves's disease, osteoarthritis with myxoedema. Although the administration of thyroid extract may turn the scale in many cases, it is best to make assurance doubly sure by employing spinal blistering, as recommended by Dr. P. W. Latham.

I consider 5 grains three times a day far too large a dose to begin with. It would poison many patients. Some of my patients take as little as 1½ grain to commence with, and occasionally I do not find it necessary to increase this dose. I have now given thyroid extract in 37 cases of arthritis deformans, and invariably with good results, since I am most careful in regulating the dose.

I heartily congratulate Dr. Wilson on his success.—I am, etc.,

Bournemouth, Dec. 4th. W. J. MIDELTON.

THE CAUSE OF APPENDICITIS.

SIR,—The theoretical causes of appendicitis which appear in this discussion in the BRITISH MEDICAL JOURNAL are all very interesting, and probably *all* of them may be causes. May there not be many causes? mechanical and toxaemic: stones and seeds of fruit, shot from game—

[1] BRITISH MEDICAL JOURNAL, December 3rd, p. 1769.

hares and rabbits (I have heard of a grain of shot being found in one case operated upon)—uratic deposits, decomposition of food remains, etc, which might account to some extent for the success of treatment in some cases and its failure in others. For instance, sodium salicylate would not have much effect on a grain of shot or a plum stone.

Dr. Gurney suggests influenza as a cause, and states that "appendicitis was rare twenty years ago, but as soon as influenza appeared in this country the number of cases increased enormously." But there were many very severe epidemics of influenza prior to 1889. Not to go so far back as that of 1580, severe epidemics have been recorded in 1708, 1712, 1728, 1733, 1743, 1758, 1762, 1767, 1775, 1782, 1788, 1789, 1803, 1831, 1833, 1837, and 1847, and yet no one seems to have remarked any increase in appendicitis or typhlitis, or anything which might cause similar symptoms though called by other names.

In the epidemics of 1833, 1837, and 1847 the late Professor Graves, of Dublin, in his clinical lectures, pointed out differences in the symptoms of those epidemics, and remarked: "It would conduce greatly to the advantage of medical science if a brief and accurate history was left to posterity of the character, symptoms, pathological phenomena, and treatment of every epidemic" (that is, of influenza).

A fact which struck me during seven or eight years' practice in North Wales was that amongst the native Welsh, who eat comparatively little meat, but drank copiously of tea—one admitting to twenty-four cups a day—I never saw a case of appendicitis. I do not put this down to the tea, but the abstention from meat might have something to do with it. On the other hand, I had several cases amongst English and American visitors. On inquiry I found the Americans had three meat meals daily.

Twenty-two years ago I saw a man with acute pain, tenderness, and swelling in the region of the appendix, with pyrexia and quick pulse. I considered it at the time to be a case of typhlitis. He was bad about four days, and the last two days had constipation. My treatment and several large enemata having no effect, I suggested an operation as being necessary, but he had a strong objection, stating that a friend of his had just died after a similar operation. I then tried injecting, by means of a long tube, a quantity of hot olive oil, and, after some perseverance, succeeded—more by good luck than cleverness—in dislodging a large globular mass of what appeared to be meat fibre, perfectly *alive* with maggots. I never saw anything like it before nor since. The man had previously been in such agony that he could not bear the weight of a light linseed poultice. He soon got quite well. The decomposition seemed to have set up the acute symptoms.

I believe I have read of a Parisian doctor who reported 60 consecutive cases of appendicitis treated by small doses of calomel and tea, the tea being vehicular, I suppose; and I myself have had a number of cases which presented the symptoms of appendicitis and got well with salicylates, ammonium bromide, and small doses of calomel, and strictly dieting on warm milk and plasmon. One case was diagnosed, in a town eighty miles away, as appendicitis, and travelled to North Wales, which did not improve her condition; another diagnosed at a hospital as probably appendicitis, but "no bed available at present"; and another was the son of a doctor, and the father was inclined to an operation, but the boy got on splendidly, and I believe never had any return of it, now some ten years ago.—I am, etc.,

London, W., Dec. 2nd. DOUGLAS MACDONOGH, D.P.H.

SIR,—As this subject is again to the fore, I should like to record my own experience in the matter. Having had at various times several attacks of appendicitis, or, perhaps, I ought rather to say of pain in that organ, not sufficiently severe to disqualify me from work, as well as one which confined me to bed for some days, in which the late Dr. Dreschfeld saw me and prescribed sodium salicylate, I was naturally led to seek for the cause for so recurring and painful a malady. I found that the cushions of my carriage had not been properly dried. On remedying this the attacks ceased, and, except for some fugitive pains when I have sat upon a cold or open seat, I have ceased to be troubled in this way. I have kept, fortunately, both my health and my appendix. This now for several years. This led me to make inquiries, and I found that not only did this seem to be a sufficient cause for other attacks in my patients, but that many cases of pelvic and uterine trouble seemed due to a similar cause. Electric trams are an introduction of recent years which are patronized by all classes of the community. It is to the use of them for considerable distances and sitting upon the cold or damp seats which appears quite sufficient to account for the increased number of cases that now occur. An inquiry in this direction would, I feel convinced, give the key to many an otherwise inexplicable case. Of course there may be concomitant causes, as constipation and excess of any kind.

Personally I abhor fads of any kind, and have ridiculed the agency of cold as a factor in causing disease. Now I think I know better, and have more respect for trivial causes than formerly.—I am, etc,

Lytham, Dec. 4th. B. JONES, M.D.

SIR,—There is nothing new in the theory that meat eating is the cause of appendicitis. The opinion of Dr. Coates, who suggested that preserved meats were the cause of appendicitis, has not received the approval it merited from your correspondents who have written on the subject. It is suggested that tubercle and influenza may be the causes of this disease. If this were so, should we not have had a great number of cases when influenza visited our shores many years ago, and seeing the deaths from tubercle are getting fewer each year, should not the number of cases of appendicitis be decreasing somewhat? As a matter of fact, the practitioner sees an increasing number of cases each year. In my opinion there is much to be said in favour of the cause of appendicitis being the enormously increased amount of meat now being consumed in this country. When I was a student appendicitis was not often seen in hospital wards; now many scores of cases are operated on in all large hospitals every year, and very many cases are seen in private practice which never reach the operation table.

During the last twenty-five or thirty years the habits of the people of this country have changed a good deal in regard to meat-eating. When I was a boy, the foreign meat shop was unknown in this city, now one sees them in every street almost. The amount of home-killed meat consumed per head of the population has increased enormously during the last twenty-five years. The total consumption in 1908 was 25,857,000 cwt. (*Live Stock Journal*), and on the top of this we have the vastly-increased amounts of imported meat. To show the enormous expansion of the chilled meat traffic, may I quote the following:

> In 1838 there were 57 ships engaged in the business, whilst in 1908 there were 190; the carrying capacity has increased from 955,000 carcasses to 12,756,400, reckoning each carcass at 56 lb. Last year 9,651,413 frozen sheep and lambs were imported, compared with less than 2 millions in 1888.

The writer goes on to say, "the average annual consumption per head of beef, mutton and lamb is 89 lb.," which we must bear in mind is on the top of the British-grown meat.

I am quite aware we are using more tea per head of the population and more tobacco, but I do not think we can lay the blame on these articles.

Appendicitis being due to the action of bacteria, I think there is some ground for suspecting meat to be the cause. The bowel contents of a meat eater are infinitely more foul than the bowel contents of a non-meat eater, and therefore must contain enormous numbers of colonies of bacteria compared with the non-meat eater, and therefore increased liability to appendicular inflammation. Children nowadays commence to eat meat at a much earlier age than formerly, and are consequently often sufferers from appendicitis. I am quite sure this enormous increase in the consumption of meat is a factor in the causation of other diseases which are on the increase in this country, and cannot help thinking that this subject has not received the attention it deserves.—I am, etc.,

Leeds, Dec. 5th. A. HAWKYARD, M.D.

TREATMENT OF SCHOOL CHILDREN.

SIR,—With reference to the treatment by general practitioners of school children found upon medical inspection to be suffering from ringworm, Mr. Louis Dods appears to regard an *x*-ray apparatus in the surgery as a *sine qua non*

Being engaged in the medical inspection of school children in North Warwickshire, I have been more than surprised at the large number of cases cured by practitioners and others, and that in a comparatively short time, by drug treatment alone, especially those cases seen and diagnosed early before the microsporon has penetrated deep into the hair follicles. Severe and inveterate ringworm of the scalp, like "running ears," brings little kudos to the medical attendant, parents soon becoming dissatisfied if a cure is not effected within a few weeks. These, then, are the cases, *caeteris paribus*, suitable for *x*-ray treatment, such treatment to be by no means in the hands of an amateur, but of a skilled operator only.

But now that medical inspection of school children has become an established fact, why, I ask, should there be any severe and inveterate cases at all, and, therefore, why the necessity for *x*-ray treatment? In a recent Memorandum issued by the Local Government Board on the prevention of the spread of infectious diseases occurring among children attending public elementary schools, the notification by head teachers to the school medical officer and the medical officer of health of cases of notifiable and non-notifiable infectious diseases, and of suspected infectious disease, is recommended, cases of ringworm being naturally included. Such a scheme is at present in operation in Warwickshire, and will, no doubt, shortly be general throughout the country. Suspected cases of ringworm will therefore be notified to the school medical officer, seen by him *quam primum*, diagnosed as such, the parent recommended to seek medical advice, and the health visitor instructed to visit the home to see that such advice has been sought and properly carried out. Thus, through the agency of the school medical officer, will cases of ringworm be nipped in the bud, the necessity for *x*-ray apparatus or clinics obviated, and treatment retained in local surgeries, with credit to the practitioner and satisfaction to the education authority.—I am, etc,

A. HAMILTON WOOD, M.D.,
Assistant County M.O.H., Warwickshire.

Birmingham, Dec. 5th.

SIR,—In his letter of December 3rd Mr. Louis Dods says, "It is time, I think, the General Medical Council woke up," etc.

It is useless to think that either the General Medical Council or the Council of the British Medical Association can help those who will not help themselves. If the position of the general practitioner is to be bettered the general practitioner must find out for himself what he wants, and then by organizing and being united he must see that he gets it. There must be an effort made by each individual man. The machinery exists in our Divisions.

As an instance of how those Divisions are used may I relate the experience in my own Division last Saturday? In order to stimulate interest it was decided to hold the meeting in a town ten miles from our head quarters. The attendance out of a roll of just over fifty was eight; three from the head-quarter town, three from a town thirteen miles off, one from a town eight miles off, and *one* from the town the meeting was held in, and this when an important matter in regard to club practice was on the agenda. If men are so lethargic they must reap the consequences, but it is hard that those seeking to improve matters must sink with them.—I am, etc.,

HERBERT P TAYLER,
Chairman of the Trowbridge Division.

Bradford-on-Avon, Dec. 5th.

SIR,—Mr. Louis Dods has evidently forgotten that at the meeting to which he alludes a resolution was carried to further the provision of school centres for exactly the reasons he states have been lost sight of. Further, the meeting in question was not a meeting of the Association but of the whole of the local profession. Lastly, Mr. Louis Dods evidently attributes to the General Medical Council powers it does not possess. As secretary of the organization committee elected at the meeting, I would be pleased to give Mr. Dods, or any others who care to inquire, any information respecting the whole question of the treatment of school children.—I am, etc.,

C. RAWDON WOOD.

Shoreham, Dec. 5th.

THE INTRAPERITONEAL INJECTION OF PURE GLYCERINE.

SIR,—In a notice of the discussion, etc., at the thirty-ninth meeting of the German Society of Surgery, Friedrich, of Marburg, making observations on the treatment of tuberculous peritonitis, drew attention to his employment of pure glycerine injected intraperitoneally in doses from 15 to 30 c.cm. In this connexion I would like to point out the effect on two cases in which, from theoretical grounds, I was led to use pure sterile glycerine intraperitoneally in acute peritonitis.

The first case, attended in May, 1908, was one of duodenal perforation of twenty and a half hours' duration in a man aged 21. The peritoneum was filled with the usual fluid, was deeply congested, and showed innumerable haemorrhagic spots. The following procedure was carried out: A No. 16 rubber catheter was passed through the perforation down the duodenum for about 6 in. and fixed in that position. The stomach wall was sutured over it for about 2 in. The extravasated contents were washed out with sterile saline, three openings being made into the lower abdomen, and finally about 1 pint of pure glycerine poured into the peritoneal cavity. The patient was treated in the Fowler position, and had frequent salines per rectum. The subsequent course of the case so far as the peritoneum was concerned was entirely satisfactory; indeed, at a subsequent operation (gastro-enterostomy) no trace of the past trouble was visible. The general condition quickly improved. For the first forty-eight hours the patient was very drowsy. On the day following the operation a well-marked haemoglobinuria occurred, which lasted so for two days and then gradually subsided. The object of the catheter being inserted into the duodenum was for the purpose of feeding—the pylorus being much obstructed, and his very critical condition at the time of operation prohibiting a gastro-enterostomy. Besides being fed through the catheter, the bowels were kept well under control, and salines, etc, could be administered as desired. For the treatment of pyloric stenosis with duodenal perforation this procedure has been found by me to be highly satisfactory when gastro-enterostomy cannot be performed. The glycerine was poured into the abdomen for the purpose of extracting fluid *plus* toxins from the peritoneum. The excess of glycerine with its extracted matter drained freely from the four openings left. Thus fluid was put into the bowel through the tube and extracted by the glycerine, so establishing an excellent drainage.

The second case was one of general peritonitis of four days' duration. At the operation it was found to be tubal in origin. The diseased tube, with an adherent appendix, was removed, the abdominal cavity washed with saline, and about a pint of glycerine poured into the lower abdomen. Ample drainage was provided for. The abdominal condition steadily cleared up, but next day the patient was jaundiced, and only 4 oz. of urine were passed. On the following day, as the urine again only amounted to 4 oz., one kidney was decapsulated. The surface of the kidney was adherent, there were numerous necrotic patches, and the kidney was generally enlarged and pale. The excretion of urine was not increased, and the patient died on the fifth day. A necropsy was not allowed. In this case the glycerine did not give rise to the kidney condition, but it must be borne in mind that the passage of glycerine through a kidney irritates it, and in this instance the kidneys were in a diseased condition to begin with, so the glycerine could be accredited with the suppression. There was no haemoglobinuria present.

In desperate cases of general peritonitis I think glycerine in large quantities has a most beneficial action, but it must not be forgotten that it is highly toxic. In the treatment of peritonitis of a tuberculous origin it must be used with the greatest care.—I am, etc.,

ALEX. MACLENNAN.

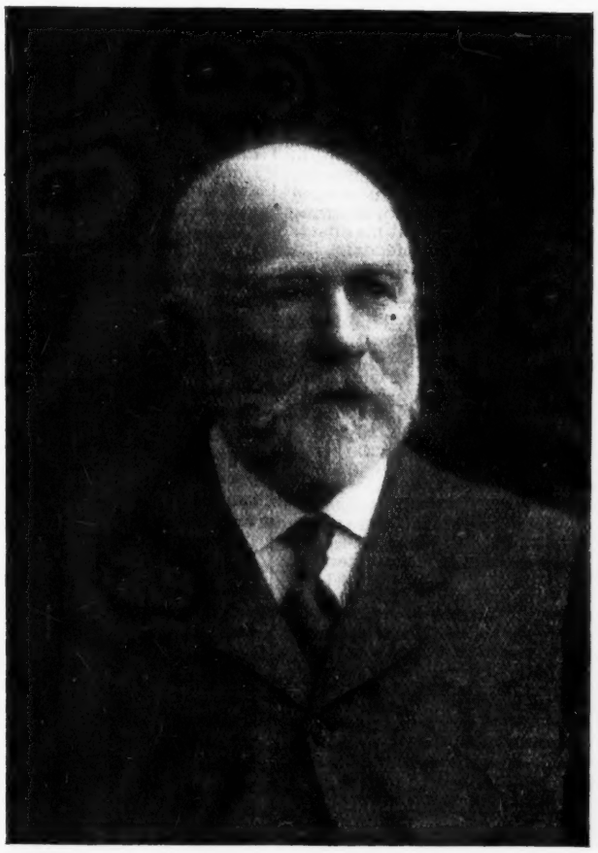
Glasgow, Nov. 27th.

Obituary.

GEORGE ARTHUR BROWN, M.R.C.S., J.P.

WE regret to announce the death of Dr. G. A. Brown of Tredegar, which took place with tragic suddenness in the house of a patient which he was visiting on November 17th. He was apparently in his usual good health and spirits up to the moment of his death.

He was born on December 23rd, 1842, and educated at King's College, where he had a distinguished career, obtaining the diplomas of M.R.C.S. and L.S.A. In 1865–8 he held appointments at the Salop and Sheffield General Infirmaries. In 1868 he went to Tredegar, where he has been resident ever since. He held the appointments of Chief Surgeon to the Tredegar Company's workmen and Surgeon to the Cottage Hospital, Medical Officer of Health, Tredegar District Council; Medical Officer to the Union Infirmary, Medical Officer and Public Vaccinator for the Tredegar District and Workhouse of the Bedwellty Union. He was also a Justice of the Peace for Monmouthshire. Dr. Brown was a keen Freemason and founder and Past Master of St. George's Lodge, and was for many years a Warden of St. George's Church. His connexion with the British Medical Association began many years ago, and he has been a most active and enthusiastic member. He has served the South Wales and Monmouthshire Branch both as President and member of Council. He was a regular attendant at the meetings of the Monmouthshire Division, and had been chairman; at the time of his death he was a member of the Branch Council, and also of the Executive Committee of the Division.



DR. GEORGE ARTHUR BROWN.

In his professional work Dr. Brown had strong leanings towards ophthalmic surgery, and he was a dextrous and careful operator and a diagnostician of great acumen. His kindness of heart and his capacity for hard work had obtained for him a large circle of friends and patients. To his colleagues he was invariably courteous and considerate, and his advice which was very frequently sought, was sound and to the point. He was pleased and delighted to go out of his way to help a professional brother in any difficulty.

In the deliberations of the Division he was a most valuable asset, his tact, diplomacy, wisdom, and real unselfishness combining to make him a great power for good. He was an easy and fluent speaker, with that touch of gentleness and refinement which was so characteristic of him, and which endeared him to all those who knew him. He was laid to rest in the little churchyard of Bedwellty on Monday, November 21st, amidst manifestations of profound grief, the long procession being headed by the police force and followed by representatives of the workmen, friendly societies, ministers, magistrates, county and district councillors, representatives of the South Wales and Monmouthshire Branch and Division of the British Medical Association, nurses of the union infirmary and cottage hospital and professional colleagues from all parts of the county.

EDWARD H. BRIEN, M.D.

DEEP regret is generally expressed in Rock Ferry and district for the loss of Dr. Edward H. Brien, who died there with painful suddenness on November 24th, at the age of 52 years. He commenced practice in Rock Ferry twenty-two years ago, in succession to the late Dr. Nixon. His father, a Fleet Surgeon, R.N., who served in the Crimean War, died whilst Edward Brien was yet a boy, and his uncle, Archdeacon Brien, acted, in consequence, as his guardian. From boarding school he proceeded to Trinity College, Dublin, and there graduated, first as B.A., and later as M.D. In his practice he was a general favourite with all classes, and he will be sadly missed, especially by the poor, to whom he was more than kind. He was a keen politician and an energetic public man. He served for years on the Birkenhead Town Council, acting on many committees; he did excellent service as Chairman of the Electricity Committee, for which position he was well fitted by his practical knowledge of mechanics. Later he was elected Chairman of the Watch Committee, and he had just been reappointed to this post at the time of his death. He was a keen motorist, and understood his car better perhaps than any other medical man in the town. He was, in fact, the pioneer of motoring in the district, his first steam car being the first of its kind, and also the first doctor's motor in Birkenhead. He was a member of the Birkenhead Division of the British Medical Association, and was President of the Birkenhead Medical Society in 1904, and was a constant and active member up to the end. He was also Chairman of the Conservative Party in his district, and in all branches of his work he was universally popular, and noted for his great geniality. He apparently enjoyed robust health until a short time ago, when he occasionally complained of pains in the neck and left shoulder, which he attributed to rheumatism, and it was only on October 16th, while doing his morning round, that a severe attack caused him to realize that he was the victim of angina pectoris, and attention then being drawn to the urine, sugar was found. On the morning of his death he expressed himself as well, and fit for work, and indeed the fatal seizure was probably induced by running upstairs for his visiting list, for he fell down in the room and died almost immediately with the book in his hand. The funeral was a very representative one, the mayor, many members of the town council, corporation officials, fire brigade, police, and a large number of his professional brethren turning out to do the last honour to one who had been the best of companions, adviser, and fellow worker, and who had served his town so well. Much sympathy is felt for his wife and two sons, the elder of whom is studying for his father's profession.

AN anthropological society has been founded at Bonn. Professor Verworn has been elected the first President.

THE number of medical students in the United States diminished from 24,930 in 1902–3 to 20,554 in 1908–9.

Medico-Legal.

LIBEL ACTION AGAINST HALIFAX DOCTORS.

An action which had long been pending was brought in the civil court at the Leeds Assizes on November 22nd before Mr. Justice Lawrence and a jury. The plaintiff, Mrs. Louisa Robinson, sought to recover damages against Drs. Harty and Brushfield, who practise in partnership at Halifax, for an alleged libel contained in a medical report written in November, 1905, to the Halifax Board of Guardians, in which it was alleged the defendents suggested she was a malingerer. The plaintiff conducted her own case, making her statement from the solicitors' table, and afterwards entering the witness-box. The defence was in the hands of Mr. J. A. Compston, instructed by Messrs. Hirst and Whitley, solicitors, Halifax. His Lordship asked if there was any statement of claim. Mr. Compston explained that the plaintiff claimed damages for an alleged libel contained in a certificate to Mr. John Holroyd, relieving officer. It was not a proper statement of claim, but his clients would not take any advantage of that. The defendant, Dr. Harty, was a District Medical Officer under the Halifax Board of Guardians, and Dr. Brushfield, his partner, was Deputy District Medical Officer.

The plaintiff in her statement stated she had required the doctor six times, and each time she did not get any medicine. She had to go to the expense of consulting other doctors. She called upon the relieving officer to produce the certificate which was handed to the judge. A bundle of certificates was handed in by plaintiff from other doctors. Mr. Compston pointed out that he had good ground to object to these certificates. The judge concurred, but Mr. Compston did not press the objection, and some of them were read. After a long statement by the plaintiff, in which she stated that some arrangement existed between the various Poor Law officers to deprive her of relief, the judge suggested she should go into the witness box. The plaintiff then made a long statement. She complained that the doctors came to see her and treated her very badly. They came and looked at her, but did not order her any medicine. His lordship interrupted the plaintiff, and mentioned that she was dealing with matters that had nothing to do with the complaint before the court. When she sent for other doctors, continued the plaintiff, they sat down by her side and looked into her health, and gave her something to make her better. Private doctors, however, were unable to order her nourishment as the Poor Law doctors could, but Drs. Harty and Brushfield ordered her nothing. On November 24th, 1906, she applied to the relieving officer for an order to go into the union hospital. Dr. Harty visited her and refused to sign the order; he did not examine her, but wrote the certificate complained of and sent it to the relieving officer. That certificate stopped the relief she was receiving, and she had had to go without food at all.

His Lordship interposing: You don't mean to say you have had to go without food since November, 1906?

Plaintiff replied: No; but she had to rely on what was given her.

Mr. Compston then cross-examined the plaintiff: It was true she had written letters complaining of the treatment of other district medical officers as long ago as 1893. She had also made charges of improper conduct against the relieving officer about that time. Counsel put to witness numerous letters written by her to different people. In one of these, written to the clerk to the guardians, she admitted she said: "Dr. Harty is lying about my health, and states I am a malingerer, which being interpreted means that I am acting illness, putting me down an impostor, which is a serious matter, and I will make it hot for him and have him punished. Dr. Harty is depriving me of the nourishment I need so bad. A cowardly conspiracy between the lot of you to take my life!" Replying to counsel, she said she had forgotten that the guardians stopped her relief three days before Dr. Harty wrote the certificate of which she complained.

In further cross-examination she insisted that Dr. Harty had never examined her at all, and did not do so on the day he signed the certificate. Counsel handed her a letter written by her on November 28th to the Clerk of the Guardians, which she admitted, after some hesitation, was her writing, and referred to the visit in question. In that letter she wrote: "I told him (Dr. Harty) I had a pain round my heart, and showed him with my hand. Dr. Harty then put his instrument to three places on my chest and round my heart; then he said there was nothing wrong with me. I will swear on my oath this is true."

Dr. Robertson (Halifax), called by the plaintiff, had given her a certificate saying she was suffering from partial paralysis and cardiac weakness. He did not recollect examining her on December 13th, 1906. Witness admitted he gave the certificate produced. He saw her on two dates in December, and again three or four times in January, finally telling her not to call any more.

Mr. Compston submitted that there was no case to answer. The certificate was signed and published without malice, and in the honest belief that it was true, and on a privileged occasion, and was a privileged communication. He further submitted that the duty discharged by the defendants in issuing the certificate was a public duty within the meaning of the Public Authorities Protection Act, 1893, and the action was therefore hopelessly out of date. No evidence was called for the defence.

His Lordship agreed on both points raised by counsel, and at his direction the jury returned a verdict for the defendants.

DENTIST CONVICTED OF MANSLAUGHTER IN COUNTY CORK.

John Tough, an unregistered dentist belonging to a firm called "Cole and Company," who have offices in both Belfast and Cork, was charged at the Munster Winter Assizes with feloniously killing and slaying one Ellen Collins in Bantry on June 18th last. The facts of the case have already been reported in the JOURNAL, but a short recapitulation may be of interest. Ellen Collins, a young school teacher, aged 19 years, came from her country home to Bantry to have some teeth removed by this travelling unregistered dentist. For some days before she had some bleeding from her gums and showed discoloration of skin on face and hands, as well as on other parts of her body, which marked the condition known as purpura haemorrhagica. The accused injected cocaine hypodermically under the gums and proceeded to draw the teeth—four front teeth from the upper jaw and two teeth from the lower, six in all. The girl left the room bleeding excessively from the mouth, and the prisoner let her go without making any attempt whatever to stop the profuse bleeding which followed the extraction of the teeth. She went to the house of a neighbour and had fainting fit after fainting fit. The prisoner was summoned to the house and tried to stop the bleeding with tinct. ferri perchlor., but with no success, and Dr. Bennett, of Bantry, was called in, but, despite the latter's skilful treatment, the girl continued to bleed till she died some forty-eight hours afterwards.

Mr. Justice Kenny, in summing up, said it was a very important case for the community at large. His Lordship did think it was a very serious thing to send out a man who was not qualified, though, as the solicitor for the accused had stated in his speech, the law allowed any man to practise as a dentist, whether qualified or unqualified. So far as the citizens were concerned, he thought it was a highly dangerous thing that these young men should be let out to try their prentice hand—for it was nothing else—upon patients. Did the jury think there was criminal misconduct arising from gross ignorance or that there was a mere error of judgement? The prisoner purported to act scientifically and to act professionally, and to do services which would be done or might be done by a person holding a legitimate degree or diploma. People paid him for it, and was he bound to use, in the course of the operation and in the course of extraction in this concrete case, all his own skill could suggest, or was he bound to go further, and use all the skill that medical science suggested? If it was a matter of an error of judgement, although the prisoner was an unlicensed practitioner, his lordship thought they should acquit him; but if they thought that, under the circumstances of the case, he should have sent for a doctor, and that the case was one in which the marks should have shown to him, if he knew anything, that this girl was suffering from this particular disease, then his lordship thought they should be justified in coming to the conclusion that there was criminal misconduct on his part, which arose from the gross ignorance displayed on the occasion.

The jury found the prisoner guilty of manslaughter, but recommended him to mercy on the grounds of his ignorance, and considered the firm who sent him most culpable.

His Lordship, in passing judgement, said the prisoner had been found guilty of negligence—gross negligence, criminal negligence—as the jury had found; but, having regard to all the circumstances, his Lordship did not think he should send a particular individual to gaol who was the mere instrument of this company. He would allow the accused out on a personal recognizance of £100, to come up for judgement when called on.

WORKMEN'S COMPENSATION ACT.

Cerebral Haemorrhage.

Dr. John T. Hislop (Wrexham) writes: In the JOURNAL of December 3rd, on page 1830, you comment on a recent decision of the House of Lords, under the Workmen's Compensation Act, *in re* "a death from cerebral haemorrhage." The case you refer to is that of Barnabas *v.* The Bersham Colliery, and you compare it to the well-known case of Hughes *v.* Glover, Clayton, and Co., in which the House of Lords decided the other way. You say: "The two cases are somewhat analogous; still, the decisions given are directly opposite." As one having a pretty intimate knowledge of both cases, I should like to point out that there is really no analogy between the two. In the case of Barnabas, where the House of Lords decided in favour of the employers, the man was not even seen to fall, but was found by a fellow workman in the stupor of an apoplectic seizure, from which he never recovered. In the Hughes case, where the decision was directly opposite, the spanner which the man was using slipped, and as a consequence he fell—was seen by his fellow workmen to fall—ruptured his aneurysm, and died. The all-important point is that in the one case there was proof of an *accident*, and in the other there was not.

A National College of Physicians and Surgeons of Cuba was recently organized at Havana. Dr. Juan Santos Fernandez, President of the Academy of Sciences, delivered an address setting forth the need of such an organization to promote the interests of the medical profession. A committee on organization was then appointed. President Gomez, in his message to the Cuban Congress, referred to the institution of the college as an important step in the progress of the medical profession in Cuba.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

PRACTITIONERS AND PUBLIC VACCINATORS.

VEXATUS.—If the facts stated can be substantiated, our correspondent should address a letter to the public vaccinator in question, giving the particulars of this and any other cases, also asking for an explanation and an undertaking that the irregularity would not be repeated. Should this plan fail, a similar letter should be addressed to the clerk of the guardians, to be laid before the Vaccination Committee. A public vaccinator is exceeding his duty if he visits the home of a child before it is 4 months and 1 week old, unless he has received a "request" from the parent or guardian of the child. A public vaccinator is not justified in seeking to divert a parent from any expressed intention of employing the regular medical attendant. It sometimes happens that the father requests the public vaccinator to call without mentioning the fact to the mother. It also often happens that public vaccinators are questioned about the lymph they use, and the conversation in such cases might be erroneously repeated or misunderstood. It would be well for our correspondent to satisfy himself on these points, and, having done so, he need have no hesitation in adopting the course suggested above.

THE UNQUALIFIED ASSISTANT.

M. F. D. asks to what extent, in addition to dispensing and dressing, is a final year's student who has completed his hospital curriculum allowed to assist in a general practice.

*** The resolution of the General Medical Council (November 24th, 1897) prohibits the use of unqualified assistants to attend or treat any patient, and only modifies this so far as to say that this is not intended "to restrict the proper training and instruction of bona fide medical students as pupils, or the legitimate employment of dressers, midwives, dispensers, and surgery attendants under the immediate personal supervision of registered medical practitioners." To visit or prescribe for patients except under "direct supervision," which we understand to mean in the presence of the registered medical practitioner, would be, in our opinion, a contravention of the letter and spirit of the resolution of the General Medical Council.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examination indicated:

D.P.H. (*Part I*).—H. S. Burnell-Jones, D. G. Evans, F. R. Seymour, C. B. Roscrow.
D.P.H. (*Part II*).—G. Finch, Rachel E. W. Mackenzie.
D.P.H. (*Both Parts*).—P. N. Cave, T. Chetwood, R. A. Clapham, W. P. MacArthur, A. C. Parsons, O. P. Turner, G. C. Welch.

GLASGOW UNIVERSITY.

Statistical Report.

THE secretary of the University Court has issued the report of statistics relative to the University of Glasgow for the academic year ending September 30th. The teaching staff comprised 32 professors, 54 lecturers, and 88 assistants and demonstrators. The salaries paid to principal and professors amounted to £26,512; to lecturers, £8,217; and to assistants and demonstrators, £9,747. The total number of students (including 642 women) was 2,728, of whom 701 (including 71 women) were in the faculty of medicine and 449 (including 24 women) in the faculty of science. The total degrees in medicine conferred were 109, and in the faculty of science 64. The general council of the university as at September 30th numbered 7,660.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia was held at the college on Thursday, December 1st, the President, Sir Thomas Barlow, in the chair.

Arms of Harvey.

It was announced that Sir James Sawyer had offered a reproduction of the Arms of Harvey to the college. Its preparation had entailed a considerable amount of labour and research, and a cordial vote of thanks was passed to Sir James Sawyer for his welcome gift.

Communication.

A communication was received from the Secretary of the Royal College of Surgeons, dated November 11th, regarding the proceedings of the council.

The rest of the business was ordered to be regarded as *secreta collegii*.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Fellowship Examination.

THE following candidates have been approved at the examination indicated:

FIRST FELLOWSHIP.—J. D. Cherry, Miss Z. A. De Cruz, T. O. Graham, J. R. May, G. E. Pepper, S. R. Rao.
FINAL.—Miss I. M. Clarke, H. English, K. T. Nath, G. F. Shepherd, Miss C. F. Williamson.

Public Health AND POOR LAW MEDICAL SERVICES.

MILK PROSECUTIONS IN SCOTLAND.

LAST month an interesting development regarding milk prosecutions occurred when the Justiciary Appeal Court, sitting in Edinburgh, quashed a conviction obtained in a sheriff court against an Argyllshire farmer for having sold milk as pure sweet milk when it was 28 per cent. under the standard in fat. The questions submitted to the court were whether the manner of taking the samples was a fair one, whether the method of averaging was a proper one, and whether a respondent in such circumstances discharged the onus laid upon him by the regulations, by the evidence of himself and his servants. The court answered all the questions in the affirmative, the last being the important one. Lord Salvesen said it was open to the person accused to show his bona fides in the matter, and to establish by such evidence as was available to him that the milk had not failed to reach the proper standard through his tampering. This is an important decision in view of the movement to ensure the punishment of the actually guilty persons in cases of milk deficiency. Hitherto a person selling milk under the standard was liable to conviction and the same penalty whether he unintentionally or wilfully offered inferior milk for sale. The man who skimmed milk or watered it was in exactly the same position as the man whose cows yielded milk below the standard, or the man who purchased milk which he did not know to be inferior, and resold it as he got it. At a recent meeting of the Scottish Chamber of Agriculture, the report of a committee which considered this question was not adopted. It failed to state clearly the real difficulties, and offered only a partial remedy. Tampering is so easy, and so difficult to detect in the case of milk, and the public interest in a pure milk supply is so paramount, that some more satisfactory and fairer method of dealing with offenders is called for.

The remedy which has been suggested as most likely to meet the difficulty is to treat the unintentional offender in a different way from the wilful offender. Keep the standard as at present and treat any one—farmer, middleman, or retailer—in possession of inferior milk as guilty of a police offence. But as a further safeguard to the public, have increased penalties for repeated offences. The usual causes for inferiority, such as recent calving, wet grass, nature of feeding, quality of cow, can all be ascertained by the farmer and guarded against, so that he may not guarantee milk which is inferior. With the retailer the case is different. He must take the risk of buying from a reliable seller and getting a guarantee. If this does not make him escape conviction and fine, it enables him to recover the penalty from the seller. For the wilful offender the onus of proof should be, as in other charges, on the prosecutor, previous convictions of having inferior milk to be allowed as evidence. The mere possession of inferior milk should not hold him guilty of the graver offence. That milk in his possession is inferior may be a presumption that it has been tampered with by some one, but it should not without further proof be presumption of the guilt of the retailer. The usual course of criminal procedure should be followed, making the offence a serious one, and an Act framed on these lines would, it is suggested, meet the case of those who are moving for some alteration in the law, and yet give the public the requisite protection.

LOCAL GOVERNMENT BOARD REPORTS.

Bridgnorth Borough and Rural District (by Dr. F. St. George Mivart. New series, No. 25.).—No reason is given for the inspection of these two Shropshire districts. The need for houses in the town of Bridgnorth appears to be very great, and not alone for the poorer labouring classes but also for the well-to-do. A striking feature of some of the older dwellings is the manner in which they are built into the rock or against the steep hillsides. There is a duplicate public water supply, after the manner of the county town of Shrewsbury; spring water intended only for drinking purposes is laid on to public stand pipes, and filtered water from the river Severn is delivered through pipes at or into houses. A portion of the sewage is treated at outfall works and a portion enters the Severn untreated. Practically all the houses in the town have water-closets. The most serious nuisance in the borough is that caused by the keeping of pigs. In one case, where a pigsty was placed upon an enormous accumulation of manure and

filth. Dr. Mivart found the smell extremely offensive and swarms of flies were in evidence. In one case pigs were being kept in a stable, while they were also found in a slaughterhouse along with a large quantity of poultry. The slaughterhouses come in for special condemnation. They are generally much too near dwellings, and complaints are made of foul smells, of soakage of filthy liquids and of the presence of flies. Many of the slaughterhouse structures are old and dilapidated sheds unsuited to their purpose. In the Bridgnorth Rural District the cottage property compares not unfavourably with that of the average rural district, though there appear to be a fair number of exceptions. For the most part the water supplies are fairly satisfactory, separate wells being in use. In one case the inhabitants of a row of cottages have to carry water from a source nearly 200 yards distant. The village of Claverley, with a population of about 160 persons, has no public supply, and in Dr. Mivart's opinion one should be provided. The condition of the cowsheds was found to be moderately satisfactory. As in so many other rural districts the chief defect, and the one apparently most difficult to remove, being the accumulation of enormous masses of dung and filth, solid and liquid, in a central foldyard or a yard with which cowhouses in one way or another communicate. In some instances an unusual number of flies was noticed in the cowhouses.

SEWER VENTILATION.

M. O. H.—There is still a good deal of difference of opinion among sanitary engineers and others as to whether a sewer should be ventilated by means of street manholes or not. There is no law compelling the provision of this form of ventilation.

DISCHARGE OF SCARLET FEVER PATIENTS.

S.M.O.—The responsibility for discharging patients from a scarlet fever hospital rests as a rule with the medical superintendent of the institution. If return cases among school children could be traced definitely to the discharge of a patient after three weeks' illness the circumstance might be pointed out to him by the education authority. It is not now so generally held that the infective period of scarlet fever is the whole of the period of desquamation. Much more importance is attached to discharges from the ears, throat, or nose.

MEDICAL OFFICER OF HEALTH AND OTHER PRACTITIONERS.

A COUNTRY PRACTITIONER.—The Local Government Board has repeatedly expressed the opinion that only in very exceptional circumstances can it be necessary for a medical officer of health to see a patient notified to him by another practitioner as suffering from an infectious disease. If such an occasion should arise the visit to the patient should be made in consultation with the medical attendant, whose consent and also that of the patient should be obtained. It is distinctly the duty of a medical officer of health to investigate the cause of any case of infectious disease of which he is notified. But he can do this quite easily without seeing or interviewing the patient. It is most improper for a sanitary authority to suggest that a medical officer of health should verify the diagnosis of a case notified to him. We do not think that any medical officer of health would be a party to such a proposal.

MEDICAL ORDERS FOR MIDWIFERY ATTENDANCE.

C. S. W., who is a district medical officer, states that his board of guardians has recently passed a resolution to prohibit medical orders for midwifery attendance being granted to applicants who live in the neighbourhood of a certified midwife, and that *in consequence of this resolution* a poor patient who was delivered by instrumental aid a year back cannot now procure a medical order for such attendance as was then found to be necessary.

*** We regard any such resolution as that which our correspondent describes as being quite contrary to the spirit of the Poor Law Acts, and if this view of the matter is correct, it would not be binding on any of the board's own officials, who, when called upon at any time to provide relief (medical or other) in urgent cases, would then be expected to use their own judgement as to granting or refusing any applications which might be made to them.

FORTY-SIX cases of scarlet fever were notified in Edinburgh during the week ending December 3rd, and 247 cases were under treatment in the hospital at Colinton Mains.

THE experience of the Massachusetts General Hospital in the control of typhoid infection among its nurses and ward-tenders by means of antityphoid inoculation has led to the adoption of voluntary inoculation among nurses and internes of several other hospitals in Boston.

The Services.

TERRITORIAL FORCE REGULATIONS AMENDMENTS.

IN the Army Orders issued on December 2nd the amendments of the Territorial Force Regulations comprise the following:

A county association will be allowed a capitation grant of 1s. in respect of medical examination for each recruit who joined the Territorial Force within the association county area, and also for each member who enlists into the Special Reserve category (B), transfers from a dismounted branch of the service, re-engaged (in cases where the company consider such examination necessary), is discharged for medical unfitness, or enrols into the Special Service section. On mobilization one suit of service dress, with one greatcoat per man, will be provided for those men who enlist in the R.A.M.C. Territorial Force to complete the war establishment of general hospitals. To enable associations to meet the cost of the provision of clothing and personal equipment for men enlisted on mobilization to complete the war establishments of general hospitals a grant will be made on the order to mobilize being given at the rates per man of £2 6s. for clothing and 9s. for personal equipment.

Lectures to R.A.M.C. Officers.

In connexion with the technical training of the Royal Army Medical Corps in field duties, in the Scottish Command, a series of lectures on the principles of staff duties in the field is being given in Edinburgh by officers of the General Staff. The opening lecture was given in the Carlton Hotel, Edinburgh, by Colonel A. Hunter Weston, Chief of Staff, Scottish Command, on December 2nd, the subject being the "Organization of the British Army for War."

The first of a special series of lectures for officers of the R.A.M.C., Regulars and Territorials, in the Scottish Command, was delivered in the Library of the Military Hospital at Edinburgh Castle on December 2nd by Colonel M. T. Yarr, Medical Inspector of Recruits. The subject was "British, French, and German field medical organizations compared." The lecturer dealt in some detail with the various units employed on active service in the field, commenting on the fact that the foreign organizations had not yet been tried in the field except on manœuvres. How the paper organization might stand the strain in actual warfare was quite another matter. He drew attention to the points which, in his opinion, we might profit from, showing what he considered the good points, and also the weaknesses or defects in each system. At the close of the lecture discussion was invited, and several points of interest were elucidated by Colonel Woodhouse, P.M.O., and Lieutenant-Colonel Heuston, R.A.M.C.

Another series of lectures will be delivered by officers of the R.A.M.C. at the Castle, Edinburgh, on the organization and administration of the medical service, and these lectures will be delivered on the afternoon of the same day as the first series.

Lowland Mounted Brigade Field Ambulance.

The third of the series of special lectures for officers and non-commissioned officers of this unit took place in the head quarters at 17, Royal Terrace, Glasgow, on December 6th, when Major H. McMiching, D.S.O., Divisional Staff Officer, dealt with the preliminary stages of the Franco-German war, with special reference to mobilization and concentration.

Scottish Red Cross Brigade.

At a public meeting in Falkirk, on November 29th, an account of the working of the Red Cross Brigade was given by Major C. C. Fleming, D.S.O., General Secretary, and an address was also delivered by Lieutenant-Colonel Greig, R.A.M.C.(ret.). A local committee and two recruiting committees for voluntary aid detachments in the district were formed.

THE GILBERT BLANE MEDAL.

THE gold medal founded by the late Sir Gilbert Blane, Bart., to be given biennially, has been awarded by the Medical Director-General of the Navy and the Presidents of the Royal College of Physicians and the Royal College of Surgeons to Fleet Surgeon G. Trevor Collingwood, M.V.O., for his journal of H.M.S. *Racer*, April 20th to December 31st, 1909, and to Fleet Surgeon Arthur R. Bankart, M.V.O., M.B., K.H.P., for his journal of H.M. yacht *Victoria and Albert* for the year 1909.

AT the meeting of the Metropolitan Water Board on December 2nd, the resignations of Dr. Percy Pope and Dr. C. E. Adams, District Medical Officers for the Barrow Hill Division of the Western District and the Buckhurst Hill Division of the Eastern District respectively, were reported. To fill these vacancies it was resolved to appoint Dr. Beresford Kingsford, M.D., D.P.H., in the Western District, and Dr. P. W. Moore, M.B., M.R.C.S., L.R.C.P., in the Eastern District. Notice of the resignation of Dr. T. E. B. Meyler, of the Battersea, Brixton, and Wandsworth Division of the Southern District, was received. Dr. W. Anderson, who was appointed to act jointly with his partner, Dr. Cobb, in the East of Lee Division of the Eastern District, has removed from the neighbourhood, but it was not considered necessary to fill the vacancy thus caused.

Medical News.

DR. SYLVANUS G. MORRIS has been appointed a Knight of Grace of the Order of St. John of Jerusalem in England.

DR. F. W. MOTT, Fullerian Professor of Physiology, will give six lectures on heredity at the Royal Institution before Easter, and Professor Arthur Keith two lectures on giants and pigmies.

DR. EBEN H. EDWARDS has received the Royal permission to accept the Third Class of the First Division of the Imperial Chinese Order of the Double Dragon, conferred upon him by the Emperor of China in recognition of valuable services rendered by him.

WE regret to have to record the death on December 5th of Mr. W. H. Horrocks, F.R.C.S., senior surgeon to the Bradford Royal Infirmary, formerly president of the Bradford Division of the British Medical Association, and for five years representative of the Bradford Division at the Representative Meeting.

THE thirty-second meeting of the German Balneological Congress will be held in Berlin from March 2nd to 6th, 1911. There will be an exhibition of apparatus and preparations in connexion with the congress. All communications should be addressed to the General Secretary, Geheimrat Brock, Berlin, N.W., 52, Thomasinsstrasse 24.

IN a note appended to an account of the discussion in the Academy of Medicine on the new colonial bill on the Notification of Infectious Diseases, the editor of the *Semaine Médicale* states that a new case of Malta fever by laboratory contagion has been reported to the Academy of Medicine by Dr. S. Arloing and Drs. P. Courmont and J. Gaté of Lyons. The last-named is a worker in the Department of Experimental Medicine and having handled cultures of *Micrococcus melitensis* during the whole of the month of April showed on May 8th the first symptoms of the disease, which lasted sixty days. The patient had never been in contact, either at the moment when he was taken ill or during the preceding months, with any patient affected with typhoid fever, Malta fever, or other analogous diseases; he had not quitted Lyons for a long time nor had he drunk goats' milk for years previously, but as has been already stated during the month which preceded the commencement of his illness he had constantly manipulated cultures of *Micrococcus melitensis*, and it is noteworthy that he was the only experimenter in the laboratory in contact with them.

THE dinner of the Glasgow University Club, London, has always been well attended, but the gathering on November 5th must have been one of the largest in its annals. Lord Curzon of Kedleston, who was in the chair, found himself presiding over an assembly which, including several distinguished guests with Lord Lamington at their head, numbered upwards of 200. The toast to "The University and The Club" was moved by the Chairman, who reminded his audience that he had the double honour and advantage of being both Rector of Glasgow and Chancellor of Oxford. This led him on to a consideration of the respective values of different forms of university life. In a general way the old universities of England were, he indicated, best fitted to the needs of those seeking culture for itself, while men for whom study at a university meant the commencement of a professional career should resort to the younger bodies. The University of Glasgow held a mediate position, being equally capable of supplying technical knowledge and pure culture. It was specially successful in its medical and scientific teaching. Between the old universities and the new ones there should not be any sense of rivalry, and he did not think there was. Each recognized the special scope of its congeners, and the directions in which its own strength lay. The toast to "The Guests" was proposed by Sir Donald Macalister, President of the General Medical Council, several members of which were present. While endorsing all that had been said in praise of Glasgow by Lord Curzon, he would like to add a further point in its favour. It was always hospitable not only to new ideas, but to those who embodied them. Among the guests whom he more specifically mentioned were Lord Lamington, Sir Thomas Barlow, the President of the Royal College of Physicians of London; Sir Christopher Nixon, Vice-Chancellor of the University of Dublin; Sir John Moore, and Sir John Batty Tuke.

Letters, Notes, and Answers.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

M.O.H. asks where he can get a portable and efficient sprayer for disinfecting with formalin.

HAIRY MOLES.

H. S. asks whether the effect of treating hairy moles by carbonic acid snow is permanent as regards the removal of the hairs.

*** Sometimes coarse hairs can be removed by the action of the snow, but to obtain this effect a more depressed scar than is advisable is produced. When the hairs resist the snow, electrolysis must be employed to destroy them. This resistance of hair is observed, too, after liquid air. Of course, the coarse hairs could be removed by electrolysis *before* employing the snow to the hairy mole.

REBATE OF LICENCE DUTY.

J. L. K. sends an extract from the *Justice of the Peace* of September 24th, 1910, in which the opinion is expressed that the use by a practitioner or his family of a car for other than professional purposes destroys the right to "exemption."

*** Section 86 of the Finance (1909-10) Act, 1910, provides for the allowance of one-half the licence duty on a car "if a duly qualified medical practitioner proves to the satisfaction of the Commissioners or Council, by whom the licence is granted, that any car kept by him is kept for the purpose of his profession." The words adopted in this section, which allows remission of only one-half the duty, are clearly intended to bear a meaning different from that attaching to the words "used solely" for certain purposes. The latter words are the words that are applied to vehicles in respect of which complete exemption from licence duty is granted under other Acts. There is no doubt that the intention of the Legislature was that, in considering the title to relief from one-half the duty, regard shall be had to the purpose for which the car is kept, and not to the question whether an entirely incidental use is made of the car for private purposes. So long as the use of the car for non-professional purposes is, in fact, purely subsidiary and incidental, the title to relief will, in our opinion, remain.

INCOME TAX.

RETIRED sold his one-quarter share in a partnership to the remaining partner on June 30th, 1910. He inquires what share of the income tax for the year 1910-11 each should pay.

*** As our correspondent enjoyed one-quarter of the profits for one-quarter of the fiscal year he should pay one-sixteenth of the income tax charged.

NORFOLK has one-half share of a practice, the profits of which are assessed at £820. He inquires whether each partner can claim to be assessed at £410 and obtain the abatement of £150, or whether income tax must be paid before the profits are divided.

*** Though not entitled to separate assessment, either partner can claim the allowance of £150 if his total income from all sources, including any that his wife may have, does not exceed £500. He may claim £120 if his total income does not exceed £600, or £70 if not exceeding £700. Application should be made to the surveyor of taxes.

ASSISTANT, who receives a salary of £200 a year with board and residence desires to know what sum should be returned for assessment to income tax.

*** The salary only should be returned. The benefit of board, etc., is not assessable to income tax.

ANSWERS.

F. B.—The next meeting of the International Medical Congress will be held in London in 1913: the exact date has not yet been decided on. The secretary is Mr. G. H. Makins, C.B., F.R.C.S., 47, Charles Street, Berkeley Square, London, W.

INVOLUNTARY MICTURITION.

DR. PERCY ALLAN (Croydon) writes, in answer to F. F.: The patient would probably find the distressing condition complained of would be entirely relieved by hypnotic suggestion. Hypnotism is specially efficacious in the treatment of functional conditions of the urino-genital organs.

CHRONIC INTERNAL HAEMORRHOIDS.

DR. H. J. THORP (Ipswich) recommends for the treatment of chronic internal haemorrhoids ung. hamamelis within and around the anus, absolute cleanliness, and, when possible, the recumbent posture for ten minutes after defaecation, and the use of a sponge in preference to paper.

GLYCERINE "TINCTURES."

E. R. B.—Glycerine possesses to a considerable degree solvent and preservative properties similar to those of alcohol, and can therefore replace the latter to a large extent in preparations in which alcohol is used; but golden syrup does not possess either property to a sufficient extent to make it suitable for the purpose, and its use would be little, if any, better than the employment of water.

LETTERS, NOTES, ETC.

B. W. J. has omitted to enclose his card.

CORRECTION.—Dr. Sidney Phillips writes: Will you allow me to correct an error in the abstract of my paper on fevers, read at the Harveian Society, and reported in the JOURNAL of December 3rd, p. 1776? It was not *pityriasis rubra* but *pityriasis rosea* which I stated might resemble measles rash.

DR. T. HOUGHTON MITCHELL (Ambleside) writes: Now that vegetarianism has been in existence for a number of years, and its advocates apparently on the increase, would it not be worth while to gather some statistics as to sex incidence in the conception products of this dietetic atavism of a partly simian nature; whether, in a word, the offspring will, in betting parlance, be worth a "monkey" or a nut. The result of an inquiry may make us heed Sir John's warning:

> *Falstaff.* There's never none of these demure boys come to any proof; for thin drink doth so over-cool their blood, and making many fish meals, that they fall unto a kind of male green-sickness; and then, when they marry, they get *wenches*.

A DISCLAIMER.

MR. JOHN MURRAY, publisher (London) writes: An advertisement of Dr. Ross's forthcoming book on cancer has been issued, which I greatly regret to learn has caused offence. I write entirely on my own initiative to tell you that that advertisement was issued from my office, in ignorance of any objection to it, and that Dr. Ross is in no way responsible either for the wording or circulation of it. I accept the whole responsibility, and I trust that no prejudice may lie against him for the mistake, as he was not consulted beforehand, and asked us to withdraw the advertisement the instant he saw it.

WATER FOR WASHING THE MOTOR.

A CORRESPONDENT who resides outside the area of the Metropolitan Water Board, after reading the annotation entitled "Water for Washing the Motor," published in the JOURNAL of November 19th, 1910, page 1644, wrote to his local water company demanding relief from a rate imposed upon him in respect of horses and traps. He has now received a reply from the secretary of the water company in which he states that "we quite admit it is clear that any water authority whose powers incorporate section 12 of the Waterworks Clauses Act, 1863, may not charge a special rate for water for washing private carriages or horses when the water for that purpose is obtained from property included in the gross assessment upon which the domestic water rent is based and where such water is used by bucket or basin, etc., and without hose pipe or other apparatus. Section 19 of the said Act prohibits any owner, occupier, or other person from affixing or permitting to be fixed any pipe or apparatus without the consent of the undertakers in every case. The whole question is purely a matter of arrangement, that is, if a hose pipe be used for stable purposes then the charge is correct, and can be enforced, as also a heavy penalty for use without agreement. If no hose pipe be used then no charge should be made."

THE HEALTH OF NAPLES.

LIEUTENANT-COLONEL W. S. P. RICKETTS, M.B., I.M.S. (ret.), who resides at Naples, writes to state that the reports with regard to the cholera there have been grossly exaggerated. There were, he says, some sporadic cases last August and September, imported from the country districts, but never any epidemic; in fact, it is a question whether cholera could now visit Naples, with its perfectly pure water supply from the distant Apennines, and justly considered to be one of the best in the world. He sees no cause for alarm for any visitor intending to include Naples in an Italian tour during the winter and spring months, as visitors live in the best part of the town in well-appointed and carefully-managed hotels and pensions far removed from any possible source of infection. The town is now cleaner and pleasanter than it has been for some time, and the state of the public health excellent; the average death-rate for the past seven years from acute infectious diseases being less than 5, compared to 6 in Paris, nearly 7 in Berlin, over 8 in Vienna, 10½ in Nice, 9½ in Rome, and 11½ in London, for 10,000 inhabitants. Surely Naples should be classed among the finest winter resorts on the southern Italian coast, if not in the entire Mediterranean.

EVERY ONE'S OWN PHYSICIAN.

WE have received from a correspondent a copy of a booklet named *Every One's Own Physician*, which was sent to him as secretary of a golf club, to be placed in the club room. It purports to be a "popular handbook of sound medical advice for the home treatment of nervous and chronic diseases," but except for a brief introductory statement, explanatory of the functions of the body, the contents are in keeping with the sort of stuff familiar to all students of the literature circulated by the more ingenious classes of quack. It terminates with a list of points on which information should be given by those writing for advice, and presumably the chief object is to attract attention to a homoeopathic institution, of which we had never before heard. Its author describes himself as a "consulting homoeopathist," and claims to have an Austrian degree in medicine. We regard the work as a libel on homoeopathy, and merely draw attention to it in order that others of our readers who see it either at their patient's houses or elsewhere may know what sort of thing it is. That they may encounter it is possible, because certain newspapers have, for reasons best know to themselves, elected to treat it as if were a serious publication.

SECRET REMEDIES AND PROPRIETARY PREPARATIONS.

DR. ZERNIK contributes a further article on this subject to the *Deut. med. Woch.* of September 15th, 1910. In this article he deals with a few extraordinary secret preparations.

Bauch's Busennährcreme (bosom nutrient cream) is sold at 4s. 6d. for two boxes, which are said to be necessary for the production of full breasts. The actual value of the boxes and their contents is between 4d. and 5d., the cream consisting of a mineral fat perfumed with oil of rose. The Karlsruhe authority has issued a warning on the ground that the substance cannot possibly produce the effect claimed in view of its composition.

Ninetta is a similar preparation. It is described as an oriental strengthening and nutrient powder. It consists of a powdered leguminous flour with sugar and lecithin.

Blisteria (made by D. F. Steiner, of Berlin), is another "oriental strength giving powder," which is sold at an absurdly high price. The Berlin police have issued a public warning against it. It consists of bean and pea flour.

Dr. J. Schäfert's physiological nutrient (nerve) salts for neurasthenia is a preparation made in Barmen. The prospectus states that it is composed of glycerine phosphate compound with certain physiological salts, which act on the formation of the red blood corpuscles and improve the circulation generally; 100 grams of the salts put up in a glass vessel costs 4s. It consists of 40 parts of glycerine phosphate of calcium, 30 parts of glycerine phosphate of sodium, and 20 parts of sodium chloride with a trace of iron.

Professor Tissander's cure for rheumatism, gout, and sciatica is stated by Zernik to be sent for 4s. 6d. by "The Sabalek Syndicate," of London. Quoting from a letter received from this firm, the "cure" is said to be composed of a number of reagents which act against uric acid. These reagents, together with a kidney stimulant and a blood purifier, are combined by "Professor" Tissander in a very concentrated form. It is pleasant to take, and does not produce any deleterious effects of any kind. The examination revealed that the tablets contained sulphur, salts (chiefly alkali phosphates), and an emodin containing vegetable powder (rhubarb, senna). Zernik concludes by saying: "This composition indicates sufficiently in how far the preparation can possess the action ascribed to it."

Spiritol is supposed to be an ideal substitute for spirit and to have nearly all the physical qualities of spirit, to be free from acid and alkali, to be miscible in all proportions with water or spirit, and to volatilize without residue. It is introduced for the preparation of cosmetic and pharmaceutic preparations, etc. The analysis revealed that it consisted chiefly of methyl alcohol, which was not even pure. Zernik comments on this preparation.

Verophen mouth water is advertised as a protective against all infectious diseases. It consists of a 0.2 per cent. solution of chinosol in water. A bottle containing 100 c.cm. of the fluid costs 1s. 6d. "Verophen" for mouth washes is also sold at 1s. 6d., while verophen for the telephone costs 3s.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste Restante* letters addressed either in initials or numbers.